

**Los Angeles  
Mining Review  
1910**

Volumes 27-28

A Scrapbook of Articles  
Primarily Pertaining to  
Southern California  
Mining Activity

Assembled by  
Alan Hensher

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BARSTOW.

### Rumor Says Yellow Aster Will Pass to Guggenheims.

Johannesburg, Jan. 26.—It is reported that the Yellow Aster mine at Randsburg will pass to the Guggenheim interests on February 1. The mine, it is said, has been in operation for some weeks past, under the direction of Herman Keller, acting as consulting engineer to the Yellow Aster Company in the interests of Guggenheim capital. During this time careful observations have been made, and operations have been extended to parts previously unexplored by actual workings. A diamond drill has, however, been used in sampling over a large undeveloped area. While no definite results are given out by the Yellow Aster Company, it is understood that it is the opinion of Engineer Keller that with the development of this new ground, and the increase of the stamp equipment, the mine can be worked to better advantage. Recently two new seven-ton locomotives, and 21 three-ton cars were added to the mine equipment. The amount reported to be involved in this transaction is \$1,500,000. Both John Singleton, and C. A. Burcham, who are the principal owners, have been at the mine. 1-26-10 p. 26

### Inyo County.

A shipment of machinery has been received at Searles Station for the Graham and Jones mine, in the Argus Range, located about one year ago. The discovery encouraging many prospectors to go into the locality. A small town, known as Custer, was created, and is now the scene of considerable activity. The Graham and Jones mine is so situated that it has been possible to block out a large amount of ore with a minimum amount of tunnel development work. A ten-stamp mill will shortly be erected, and a mine run of sixty dollar ore will be treated. Operations were suspended recently owing to the fact that a landslide occurred, covering the roads leading to the mine with hundreds of tons of debris. This has been removed, however, and development operations have been resumed to full capacity.

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Nicholas C. Green has reported one of the most important discoveries ever recorded in the Slate Range mining district. At a depth of one hundred and forty-eight feet, at the Green mine, telluride ore has been encountered, said to run as high as twelve hundred dollars per ton. The extent of the ore body is not yet known.

Shipments of ore are now being made from the new district four miles east of Garden Station. Hundreds of claims have been filed and active development is being prosecuted.

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### May Queen, in Mayflower District Working Full Crew.

Our Barstow, correspondent reports a full crew of men at work on The May Queen No. 2, a property belonging to the Mayflower Mining and Milling Co. of Chicago, Ill. The property is located about twenty-five miles from William's Wells. It was located one year ago by Mr. Geo. L. Branch and has been steadily developed during the past year. Together with bunk houses, stables, blacksmith shop, etc., two hundred and fifty feet of work has been finished. Several offers have been made for the property, but, acting on the advice of Supt. Branch, all offers have been refused. The company has secured new and what seems to be valuable ground, and now owns eleven claims. The ore taken out in general development work runs from \$35.00 to \$65.00 per ton.

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## SOUTHERN CALIFORNIA

Dry Placer Deposits at Summit, Near Johannesburg, Receiving Attention.  
Old Glory Will Commence Shipping. Outlook at Snow's  
Canyon is Encouraging. Other Notes From  
San Bernardino and Inyo Counties.

[SPECIAL CORRESPONDENCE OF THE MINING REVIEW]

**J**OHANNESBURG, CAL., FEB. 25:—  
A detailed examination of the placer grounds of W. R. Lawton at Summit, eight miles north of Johannesburg, has been commenced. This work is being done by W. R. Hackman and Victor Lypps, of San Francisco. A dry washer will be employed in sampling the deposit, and results will be recorded over a period of thirty days. Owing to the depth of the gravel, shafts will be sunk in various parts of the deposit. If the results are satisfactory to Messrs. Lypps and Hackman, it is planned to install machinery for the treatment of the gravel.

Since the perfection of the Jardine and Patton dry placer concentrator, activity in this placer district has been revived, and it is expected that five properties will be in operation at an early date.

E. E. Teagle is about to commence operations on section 26 of the Summit placer deposits. Four shafts, varying from twenty to sixty feet deep, will be sunk and it is expected that bedrock will be reached in that distance.

C. W. Greenlee has returned from Los Angeles, and is planning the installation of a machine of his own design, for the treatment of these deposits. Mr. Greenlee has spent several months in Arizona and Old Mexico studying methods employed in the dry treatment of placer gravels. Upon his return to Los Angeles, he constructed a model machine which he considers an improvement on anything previously used.

The Old Glory mine in the Slate Range will commence shipments of ore in about three weeks. A team will haul ore to Johannesburg, a distance of about thirty-five miles, and shipment will be made to San Francisco. This mine was first operated by the Mirror Interests, but had been idle for many years until acquired by the present owner, L. L. French. Only ore taken from rich pockets is being sacked for shipment, the medium grade material being left until such time as the mine is provided with its own reduction facilities.

## Inyo County.

Much progress is being made in the development of properties in the Ballarat Mining District in the Pahrump. At Snow's Canyon the outlook is particularly bright, and several properties which are being actively developed are getting promising results.

At the property of the Snow's Canyon Mining and Milling Co. an ore chute averaging about thirty-five dollars, is being opened up.

At the California Mine, Jack Cress is drifting on the fifty-foot level and is taking out a milling grade of ore. The mill is also receiving ore from the Blue Bell mine, which is yielding \$50 on the plates, and producing a concentrate valued at \$96 per ton. This is considered one of the most promising mines in the Snow's Canyon section.

The Wicht lease, also in Snow's Canyon, recently encountered a thirteen-inch seam of \$200 ore on the hanging wall. A crosscut has been driven thirty feet in low grade ore, and is expected to reach the foot-wall within a few feet.

A. L. Barber, manager of the Jail Canyon mine, at Ballarat, has gone to Los Angeles, where he expects to remain for two months. He states that development on a large scale will commence in April.

Shorty Harris, of mining fame on the desert, is sinking on a thirty-foot gold-bearing dyke at Wingate Pass. He expects to carry the shaft to the 100-foot level, after which crosscutting will follow.

The United States Smelting Co. has completed its fifth shaft through the salt deposit at Saratoga. This deposit is said to be one hundred feet in thickness. A crew of twenty men is engaged in the development of the property.

Jim Burns and E. Densmore have returned from a prospecting trip forty miles southeast of Ballarat, where they located five claims, called the Silver Star group. The vein is in a lime and porphyry contact, and is four to ten feet in width. The outcrop has been traced on the surface

for a mile and a half. The values are principally silver and lead. An option on the discovery has already been taken by San Francisco parties.

## BLIND SPRING. FEB 19

Mono County District Developing  
Several Good Prospects.

Mr. Frank L. Turner, nephew of Mr. C. S. Long, the mining man of Oakland, who has spent the past twenty months in southern Mono county, arrived in Los Angeles a few weeks ago to take a six months' course in assaying and engineering at the University of Southern California. Speaking of developments in that county, he says that several companies are prosecuting work with excellent prospects and that the outlook is, on the whole, particularly bright. The Blind Spring Hill Mining Company is driving a crosscut from the main tunnel to tap the Cornucopia vein at depth. The latter was formerly worked by shaft, but as water interfered with development, it was closed down some years ago, although it gained the reputation of being among the richest silver mines in the state. The company is working three shifts—in all about twelve men. Across from the Blind Spring district is the old camp of Montgomery, where several miners are taking out and shipping some excellent silver ore. The most prominent property is the Page, where considerable development work has already been done.

## ORANGE COUNTY COAL. FEB 19

Fifty Tons Now Mined Daily to Supply Local Demand.

The Orange County Coal Company, operating ten miles from Orange, is now employing between twenty and thirty men and raising between forty and fifty tons a day. The product is sold to consumers in Santa Ana and Los Angeles and brings from \$10 to \$12 per ton, according to the size. The working shaft is down 240 feet on the dip of the seam, which runs from eighteen inches to three and a half feet in thickness. The company is now arranging to put in a hoist and will sink with as much speed as possible to the 800-foot level and is also considering the installation of a briquetting plant to utilize the fine coal, of which there are several hundred tons on the dump. Just now so much coal is being mined that the hoisting equipment is inadequate and the force has been cut down from three to two shifts until the steam hoist has been placed in position.

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supply the domestic and milling requirements of the camp for six years.

## The Week's News Notes From Kern County.

JOHANNESBURG, Feb. 21:—During the past month the Red Dog, Osdick, and Sunshine stamp mills have been in constant operations on ores from the Stringer district, and have been getting unusually good returns. These mills comprise twenty stamps, and have averaged a clean-up of about one thousand dollars per stamp during this time, or a total production of twenty thousand dollars. The Stringer district, from which this ore was taken, is a section of the Rand Mining district, between the Yellow Aster mine, and the Tungsten belt. The name "stringer" originates from the fact that the ore shutes are not continuous, but are found in patches of from one to one hundred tons. These patches when opened up, generally show big values, and a strike of ore worth three hundred dollars per ton is not considered unusual in this locality. While operations in the Stringer have a reputation of being profitable; on account of the difficulty of blocking a given tonnage of ore most of the operations are carried on in a small way by leasers.

Ten tons of ore from the Pearl Wedge mine were milled during the week, netting the owners \$1700. This mine was recently purchased by Grant Illingsworth, of Randsburg, and is being operated under his direction.

A recovery of \$1000 per ton was realized on a small milling of ore from the Houser mine. This ore was taken out during the sinking of the shaft.

The Alameda at Johannesburg has resumed operations after several years of idleness. A whim has been erected at the east shaft. Over two thousand feet of development work has been done in this property, and during its early operations the mine was equipped with a dry concentrator. As this machinery was found to be not adapted to the treatment of the ore, it has been discarded, and ore shipments will hereafter be made to a custom mill.

A contract has been let by C. J. Teagle for two hundred feet of tunnel work on the Red Mountain Water Site. This site which is about four miles from Johannesburg has been the source of water supply for that place for several years. It is estimated that with the additional work, sufficient water will be developed to

## INYO COUNTY PROJECTS

## Great Mining Revival in that Section of California.

Mr. Carl F. Schader returned to Los Angeles this week from an extended trip through the central and southern portions of the state of Nevada, returning by way of Inyo county, then south via Searles and Johannesburg, Kern county, California. Concerning his trip Mr. Schader sends the Mining Review the following very interesting notes:

Few people realize the change that has come across that desert portion of California. The Southern Pacific railroad has constructed what is commonly known as the aqueduct line, which, however, will soon become the main line, for it is to be connected with the Union Pacific at Hazen, Nevada. The station of Searles, a few miles from the old Searles borax works, has been established. The company has located the entire Searles Lake, which is forty miles in circumference. This lake made the famous Death Valley borax in the earlier days and twenty-mule freighting outfits hauled it into Mojave. When "Dorn" Smith became king of the borax situation, he made his peace with old man Searles by paying him a certain sum per annum to close down his borax works. It has laid there ever since. The company has recently taken hold of it, purchased the old borax plant with an agreement that they would not manufacture any borax, and are manufacturing a soda compound known as trona. They have an immense auto-power wagon that hauls their supplies to and from the railroad. The wagon is of the same class that the English used in the Boer war and was imported from England. Within the past few months Graham & Jones, forty-five miles from Searles station, have discovered a wonderful porphyry dyke, where they have a shoot of ore thirty-six feet wide and two hundred feet in length, that assays and cyanide tests show to average \$8.50 per ton. One of the owners, Mr. Smiley Jones, is the superintendent of the Tom Reed mine, Mohave county, Arizona, and has the credit of having made the wonderful success of that property, which before his time had been a failure.

Mr. Jones, being a successful mining man, is making all of his tests on his new discovery in Inyo county, at the Tom Reed laboratory. After satisfying himself that all was right he has ordered a full equipment for the Graham & Jones mine. Part of it is being hauled from Searles station at this time.

In this same neighborhood, the Arondo gold mine has been in operation for the past eight years. Mr. Smiley Jones was formerly superintendent and made a profit for the company on four-dollar ores. The Arondo company has recently made a discovery of a new ore shoot in its Cuba mine. The new shaft has reached the hundred-foot level and they have already completed 146 feet of drifting on this level, and all in ore that will run from six to twelve dollars per ton. This property is at this time being expected by parties that are contemplating its purchase. This new railroad is also opening up great agricultural possibilities. Hundreds, yes thousands, of acres of land are being taken up in homesteads and under the Desert Land act.

About ten miles north and east of the old Searles stage station, several thousand acres are being colonized. This new station has also become the shipping point for the famous Skidoo mines, owned by "Bob" Montgomery and associates, and desert caravans of freight are daily seen hauling supplies, etc., to the Skidoo mines.

In a very short time the mail route will be discontinued from Johannesburg and will have its starting point at the new town of Searles making the route twelve miles shorter to Ballarat and way stations. The Trona company is said to be preparing plans and specifications for the establishment of the greatest chemical works in the world. [In the meantime the existing plant has been closed. Ed. M. R.] It has been known for many years that not only borax, but all of the different salts of lime such as nitrates of soda, nitrates of potash, bicarbonate of soda, trona and many other chemicals can be very cheaply extracted from the lake. The water can be pumped into large vats and evaporated, and the different salts valuable to medicine and commerce cheaply recovered. The trona is found in solid deposits from two to four or five feet in thickness and resembles great chunks of frosty-looking ice.

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## Oil and Metals Men of the Southwest

[By our own Cartoonist]

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**M**ILES GREGORY is one of the younger element of the city's progressive business men who has made good. He is a member of the Chamber of Commerce, San Gabriel Valley Country Club, Los Angeles Stock Exchange, and the Union League Club. He is an Elk and a Mason, and has been active in Los Angeles social and business life for six years. His oil interests include extensive holdings in the Traders Oil Company, of which he is a director and a heavy stockholder; he is also interested in other oil companies, and is the largest individual stockholder in the Johnnie M. & M. Co.

An enthusiastic automobilist, Mr. Gregory's garage contains handsome late model touring cars, while blooded horses and thoroughbred cattle dot the green at his beautiful semi-country home 2340 London street, this city. This home is situated in the center of a beautiful grounds and its arrangement and decoration reflects the taste and judgment of its owner.

Mr. Gregory has been for the past five years a moving spirit in the Union League Club which he has served without salary for five years and which he has brought to an enviable position among the clubs of this city.



Capt. C. Henry Thompson, M. E.;  
One of the big figures of the  
Great Southwest.

**C**APT. THOMPSON is one of those bluff, big-souled men, who have wrested from the world the need that is their due. He belongs to a race who do things—big things. Capt. Thompson, after five years of service in the regular army was mustered out April 5th, 1866 and after an active business career in the East drifted West, in 1870, and has since been an active figure in its development. He has been a resident of California since 1887, but his interests have not been confined to this state alone. One could follow Capt. Thompson through a dozen camps in as many states where he formed lasting friendships with many of the most prominent mining operators in the Southwest.

Capt. Thompson has made an enviable record as a mining engineer and is rated high among the mining authorities of the Southwest. A man of keen perception and great executive ability, he is quick to seize upon every opportunity, and quite recently closed a deal involving a large sum, by which he acquired the Sierra Pinta mines in the Altar district, Sonora, Mexico. This property carries high gold values and has been developed for 2,000 feet on the vein EIGHT RE V13 ems brev AL through a 450-foot shaft, averaging \$42.15 all the way; the vein is two to three feet wide. Eight thousand tons are in sight and the possibilities are unlimited.

Capt. Thompson is a charter member and a director of the Sierra Madre Club.

**M**R. McCALLUM has been identified with Western mining since 1878, when he drove the first six-mule team load of dressed lumber into the Leadville Camp, through the Piute Pass from Colorado Springs. To Mr. McCallum's efforts, largely, is due the development of the Hart Mining district, this state, he having been actively identified with most of the better-known companies of that camp, and attracting the first Eastern capital to that section. He took an active part in the development of Idaho, where he entered politics and was Chief Clerk of the House of Representatives in '85-'86 and was one of those instrumental in securing statehood for Idaho. He re-entered mining in Utah, after leaving Idaho, becoming active in Republican politics as a member of the old Liberal party; Salt Lake's Public School system, recognized as one of the most efficient in the country, is largely attributable to his efforts. During the McKinley campaign in 1896, Mr. McCallum was selected by the gold-republicans for State Chairman, but was defeated by one vote by Johnny Dooley, who headed the free silver faction. Mr. McCallum has decided to enter the oil game and has taken a lease on 120 acres of the Whittier Oil Development Co. land at Whittier, where a well was drilled into the sand five or six years ago and a good oil showing secured at 2100 feet. Mr. McCallum has representatives in Coalinga looking over the field and is figuring on taking over a 19,000 acre tract in the Santa Maria section. He is a member of the Sierra Madre Club.



H. S. McCallum, Mining-Oil.



Miles S. Gregory, Treasurer and Director of the Johnnie M. & M. Co.  
Secretary and Director of the Union League Club; Member Los Angeles City Council; Broker; Clubman.

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## Oil and Metals Men of the Southwest

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[By our own Cartoonist]

**M**R. F. M. SMITH, usually called "Borax Smith," is one of the best-known figures in Southwestern mining. It was he who built the railroad skirting the edge of Death Valley and cutting thirty days from the



F. M. Smith, President of the Tonopah & Tidewater Railroad; President Pacific Coast Borax Company.

time required to make the trip in the days when the famous "twenty-mule" teams transported borax from the mines across the desert to the railroads. Thirty-five days were consumed by these teams in conveying the borax from the "Lila C" mine to Mojave. As terse and laconic as was the famous order of the Czar of Russia when he drew a line between St. Petersburg and Moscow and said to his engineer, "Build a railway," were the instructions of "Borax" Smith to John Ryan, his construction chief, when he pointed across the desert from Ludlow and said, "Build a railroad up through the desert and draw on me for all necessary funds." "Borax" Smith knew what he wanted and he took the shortest path to attain the end. As a result of that laconic order the Tonopah & Tidewater Railway today affords the miners of Goldfield, Tonopah, Bullfrog, and other districts in Nevada, an outlet for their ores and transportation for their material and supplies. In this pioneering, "Borax" Smith belongs to the class typified by J. J. Hill and other great railway builders.

Mr. Smith, in addition to his borax and railroad holdings, is the heaviest

stockholder in the West End mine at Tonopah, and owns the controlling interest in the Oakland Traction Company and the Key Route Ferry System. The Oakland system was built twelve years ago and ranks with the foremost traction systems of this State.

**M**R. ROBERT GRANT is one of the most prominent mining operators in the Southwest, and has been connected with some of the largest and most important transactions consummated in this section. Forty-five years of age, a Pennsylvanian of Scotch parentage, his business career was commenced in 1880 as a telegraph operator on the Pennsylvania Railway. A year later he came West; was with the Santa Fe in New Mexico and the Union Pacific in Wyoming, and in 1883 went to Butte where he put in four years more. It was in 1889 that he first became connected with mining, taking a position as clerk in the general office of the Parrot Silver & Copper Company. He was with this company in various capacities until 1897, when he was elected general manager of it. Later, when the Standard Oil interests embarked in the copper business, Mr. Grant acted for the owners of the Parrot Company in the negotiations that terminated in the Parrot being taken, with other Butte properties, into the Amalgamated Copper Co. Mr. Grant then bought into the Sioux Consolidated in the Tintic district, Utah, which after development, he sold to United States Senator Smoot and associates. Mr. Grant came to Los Angeles in 1905, and with Mr. Philip Wiseman formed the American Mines & Exploration Company. They two with Mr. Seeley W. Mudd, purchased the Ray Consolidated Copper mines, at Kelvin, Arizona. In this deal Mr. Grant was associated with Messrs. Sherwood Aldrich, Shove, MacNeill, Penrose and Jacklin of the Utah Copper Company, Mr. A. Chester Beatty, Mr. Bernard M. Baruch, and the firm of Hayden, Stone & Company of Boston. The Ray has been actively developed and now has an ore tonnage in sight in excess of 8,000,000 tons, the average of which is reported to be higher in copper than that of Nevada Consolidated or of the porphyry mines in Eingham Canyon, Utah. A railroad has been built connecting the mines and plant. A concentrating plant of 250 tons daily capacity is in operation and

a plant of four thousand ton capacity is under construction.

Mr. Grant recently disposed of his and Mr. Wiseman's holdings in the Ray to Bernard M. Baruch and associates for a sum in cash of over \$1,000,000. Within the past couple of months Messrs. Grant & Wiseman have become interested in a 55,000-acre tract of land near Tampico, Mexico, a portion of which is oil bearing, and a campaign of development has been started.

**M**R. TIMOTHY SPELLACY is familiarly known as "Big Tim," to every oil man in the West and particularly in California, where he has been operating for the past ten years—principally in the Midway, Kern River and Coalinga fields. Like E. L. Doheny, another of the successful operators and the pioneer in oil in this State, Mr. Spellacy is Irish and "proud of it." He is popular, socially, and in club life is a member of



Timothy Spellacy, President Premier Oil Company; President Mascot Oil Company.

the Jonathan Club and vice-president of the Sierra Madre Club. Mr. Spellacy, judging from the success he has made with the Premier and Mascot companies, will become a factor to be reckoned with in California oils.

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## SIERRA MADRE CLUB.

Members Will Entertain Ladies At Club Rooms Tonight.

The second "Ladies Night" will be held at the Club rooms tonight and members in the city are urged to attend. The evening will be spent in dancing, while card tables will be supplied for the use of those who prefer less strenuous exercise. Refreshments will be served.

The club is now considering a special excursion to Swansea, Arizona, to witness the blowing-in of the Clara Consolidated smelter, which will probably be completed within thirty days. The affair will be in the nature of an invitation junketing trip tendered by the officials of the company, and will include members of the club and stockholders residing in this vicinity.

## IN MEMORIAM.

Tribute to the Late E. Prewitt Coleman, Mining Engineer.

Some weeks ago the entire western mining world was shocked by the re-

port of a terrible disaster on the railroad grade between Kelvin and Ray, when six men, all engineers of youth and prominence, were killed by the premature explosion of a blast. Mr. Seeley W. Mudd, of Los Angeles, one of the foremost mining engineers in the United States, has recently written the following tribute to one of the victims of that disaster, Mr. E. Prewitt Coleman, son of Mr. Robert J. Coleman, who is well-known in Los Angeles and who is now mining in the state of Sinaloa, Mex.

"E. Prewitt Coleman, at the age of thirty years, was killed on February 5th, 1910, by a blast on a railroad grade between Kelvin and Ray, Arizona. He was one of the most capable and trustworthy of the younger mining engineers and in his death the profession has lost one of its most promising members. He spent his youth in Colorado and was graduated from the Colorado School of Mines. Being reared in a mining region and being the son of a mining engineer of distinction and wide experience, Mr. Robert J. Coleman, he

had exceptional opportunities for preparation for his chosen profession. After completing his studies he spent some time assisting his father in mining examinations in this country and Mexico.

"Four or five years ago he accepted the position of assistant to Mr. Henry Krumb, mining engineer of Salt Lake City, Utah, which position he continued to fill until his tragic and untimely death. His work included participation in a number of the most important examinations of recent years and took him to many mining districts of this country and Mexico. He was thus brought into contact with a number of prominent men in the mining world and was rapidly building up an enviable reputation as an able, observant and conscientious engineer, who was blessed with the power of independent thinking. His absolute honesty with himself and others and his independence of judgment assured a rapidly increasing number of clients and friends.

"His cheerful face, his consideration for others and his retiring manner quietly made a place for him in the hearts of his friends. His early end was a real loss."

## SOUTHERN CALIFORNIA

Barstow is Becoming a Lively Mining Town. California Trona Company at Borax Lake to be Reorganized and Will

Build a Railway.

(SPECIAL CORRESPONDENCE OF THE MINING REVIEW)

BARSTOW, Cal., Mch. 1.—Now that the bad weather has given place to sunshine business is booming on the desert. From every direction comes the dull thud of heavy blasting deep down in old mother earth. The sand stretching out in all directions over hills, flats and desolate washes, is criss-crossed with wagon tracks and hoof marks. All the wells and water-holes bear traces of recent visits from the outgoing prospector. Tin cans freshly cut, new baling wire, and grains of barley spilled on the ground and not yet eaten by squirrels, prove that some one has recently camped there. The merchants of Barstow are filling order after order for men outfitting for a trip on the desert. As soon as the goods are packed the merchant receives his price in cash. Such is the miners way.

Outfit being packed the prospector hits the trail; no one knows where he is going, no one asks. Such, likewise, is the miners way.

The two old veteran desert miners, —James McClinchey and Andy Larson of Long Range Placer Camp, have

reported a strike of very rich, free-milling ore in their claim located near Williams Wells, about twenty-five miles north of Barstow. The two old partners have many friends and every one rejoices with them in their good fortune.

In a recent issue of the Mining Review an error was made in giving the location of the May Queen No. 2 mine. This property is twenty-five miles north of Barstow, and about five miles north of Williams Wells. It is owned by the Mayflower Mining and Milling Company, Chicago. Supt. Geo. S. Branch reports the mine in a flourishing condition, and a full crew of men at work sinking.

Mr. M. J. Lovett left Barstow recently on his third trip since the first of the year to the Saw Tooth Range. In each of his two previous attempts to reach his destination he was driven back by the snow.

Barstow is fast coming to the front as a mining town for mining men.

San Bernardino.

S. W. Austin who was appointed receiver, last December, for the prop-

erty of the California Trona Company, at Borax Lake, has completed the assessment work on over forty thousand acres of soda lands of that company, and has discontinued operations. At an expense of two hundred thousand dollars, this company constructed a plant for the manufacture of soda ash, on Searles Marsh during the past year. It has been impossible to run the plant continuously on account of transportation difficulties. This company purchased two Renard Trains, traction engine of the automobile type, to which are attached trailers which are driven by a shaft extending the length of the train. While it is understood that this method of hauling was economical so far as fuel consumption was concerned, expensive repairs on the intricate machinery made it a commercial impossibility.

It is reported that the company is in a good way to solve its financial difficulties, and that arrangements have been made to finance the construction of a railroad to the plant. The stock of this company is held by California capitalists. C. E. Dolbear is manager and consulting engineer.

Jos. Folsee, operating south of Pilot Nob is developing a copper property of promise. Arrangements have been made to haul twenty-five tons of the better grade of ore to Johannesburg for shipment.

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## SOUTHERN CALIFORNIA

The New Gold Field Northeast of Barstow Looks as if it Would "Make Good." Miners' Club Organized and Will Send Delegates to American Mining Congress. One Thousand Oil Claims Located by Los Angeles Parties.

[SPECIAL CORRESPONDENCE OF THE MINING REVIEW]

**B**ARSTOW, Cal., April 9.—I spent last week in the district of the new gold strike, situated about thirty miles northeast of this town (Barstow). The original discovery indicated that the ore deposits were limited to a comparatively small area, but surface development shows

who is out prospecting with J. M. Morrow and J. E. Mayberry, of the discovery of a ledge which pans high in gold.

Al. Jordan sends in word that he has found good placer diggings. It is shot gold, and very pure, bringing twenty dollars an ounce.

While the district on which these

has remained in that condition for several years. The interest that is manifested in the new district, coupled to the better price for silver, has prompted the owners to resume work on it. It is in the Calico district, which in former days was the most important silver camp in the Southwest.

Mr. John T. Reed, a most reliable assayer, recently made an examination of the Bonanza mine, located about four miles north of Barstow. He made in all, forty-five assays, showing values ranging from \$8.10 to \$23 gold per ton, an average of 25 per cent lead, also silver and copper values. The property is owned by W. A. Gilman. It is situated between the Waterman and the Calico mines. Mr. C. A. Burcham of the Yellow Aster Mining Company owns, or did own, the latter property, and although he has not been giving it much attention of late it is rumored that he intends to begin big work on it again,—and that very soon. Mr. Burcham recently spent several days going over, in his automobile, the country in which the recent strikes have been made, and the adjacent country. To friends at Barstow and Daggett he expressed himself as greatly interested in what he had seen and the belief is that he will expend a considerable amount of money in developing some new locations he has made.

### MINERS CLUB ORGANIZE.

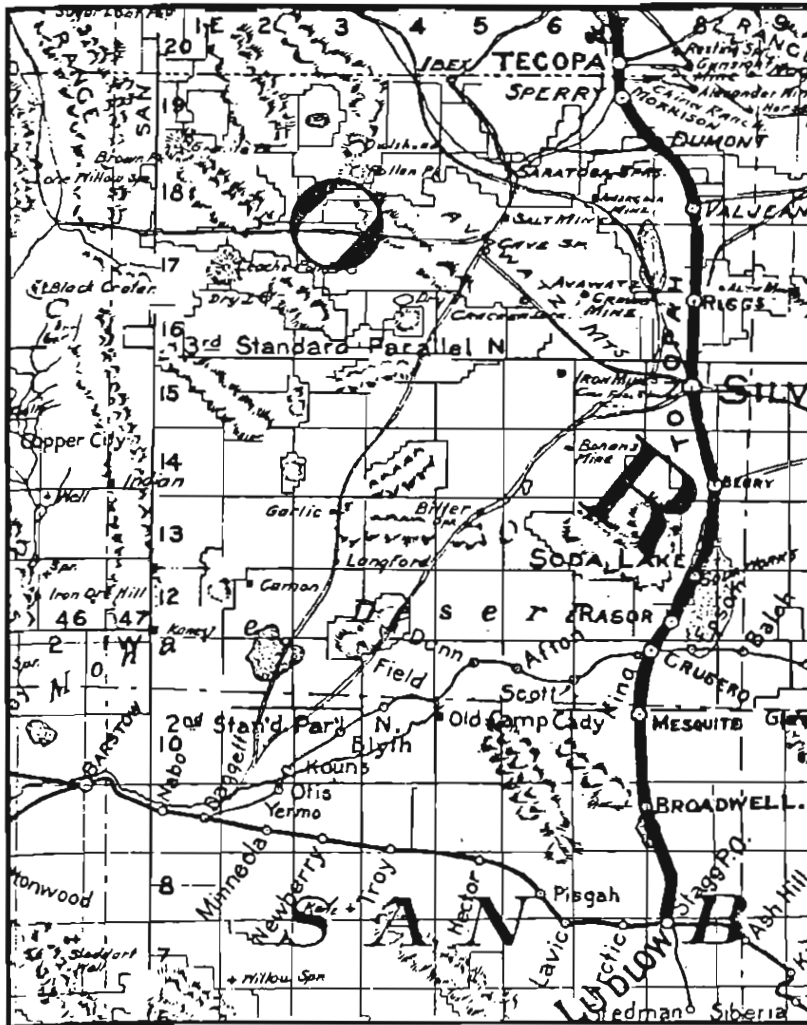
Will Send Delegates to American Mining Congress.

Another correspondent of the Mining Review writing from Barstow says:

Miners will meet at Barstow on April 14 to consider matters of importance to the Mojave Valley. A social Miners Club will be organized, so that delegates may be sent to the American Mining Congress in Los Angeles, in September. The Club will engage in business and pleasure. All miners in Mojave River valley are invited.

Mr. George Willis of West Calico, has a vein yielding 50 ounces of silver, in a tunnel 200 feet. He will send the ore to McVittie's old Calico mill.

In a belt just north of Barstow about 1000 oil claims have been located by parties from Los Angeles and elsewhere. Practically no work has yet been done in this new field, but indications are good. The Kramer Consolidated Oil Company, fifteen miles west of Barstow, has a hole down 2,900 feet with oil in the bottom. This company deserves credit for honest development. Everybody else is waiting for the Kramer Company to develop the new oil region.



TRACING OF REGION NORTHEAST OF BARSTOW, CAL., IN WHICH NEW GOLDFIELDS WERE RECENTLY DISCOVERED

that the ore-bearing area is over seven miles in length by five miles in width.

Mr. George L. Branch, superintendent of the Mayflower Mining and Milling Co., well known in Los Angeles and in this district, states that he has received news from his son,

strikes have been made continues to occupy the center of the Barstow stage, there are some other properties in the vicinity of this place which are again receiving attention, notably the Waterman mine. Owing to the fall in the price of silver this old famous mine was shut down and

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IN DEATH VALLEY.

News of the Great Mines that are Being Opened in this Much-Dreaded Region.

**C**HLORIDE CLIFF, Inyo County, Cal., via Rhyolite, Nevada. April 15, (Special Correspondence).—As predicted four years ago in the Mining Review, the Chloride Cliff section of the South Bullfrog Mining district is making good.

During the late and lamented mining boom in Nevada this section suffered by a too-close proximity to a momentarily unfortunate neighbor, but last November the Penn Mining and Leasing Co. (consisting of Los Angeles and Pennsylvania people) secured holdings here and began mining. Since that date they have expended about ten thousand dollars in developing the numerous veins and water on their property.

This work has proved up some remarkable bodies of ore both in extent and in richness. At present this company is installing an "Ideal" mill and "Standard" concentrators to treat its ores on the ground. The mill site is directly below the mouth of a tunnel from which ore can be stoped to a distance of over eight hundred feet.

There are several veins on this property, with ore enough now in sight to mill for several years without having to erect a hoisting plant. The character of the ore is a quartz and iron vein, what is usually called a "true fissure." The vein can be traced at the surface for a distance of over two miles. It carries an average in gold of \$27 per ton, with occasional shoots as high as \$100 per ton in gold, with about 4 per cent galena. The gold values are mostly free milling. Custom mills have returned as high as 90 per cent of the assay values.

This property almost adjoins the "Keane, Wonder" mine that produces about \$25,000 in gold monthly. It can be reached by a good road and is distant but fifteen miles from Rhyolite, Nevada.

Several other companies are operating in this section, among them the "Big Bell" and the "South Bullfrog." The latter has had men at work for about eighteen months running tunnels.

The Hartford group has lately been bonded to a Boston syndicate.

The Inyo-Nevada Company has also been doing extensive development work under the direction of Mr. H. C.

Rickard of Denver. This property adjoins the Pennsylvania Mining and Milling Company's property.

Altogether, the development in this section during the past year gives the assurance that it will soon be heard from as having added several steady producers to the list of California's mines.

In addition to the gold ores found in this camp, cinnabar, bismuth and silver ores have been found.

At Chloride Cliff, the elevation is 5600 feet and the view from this point, (the highest in the Funeral Range), is simply magnificent, nor do I hesitate to say one of the grandest in this country. From it can be seen the lowest point (Bennetts Wells—420 feet below sea level), and Mount Whitney (the highest point in the United States, 14,522 feet above sea level). The entire length of Death Valley is 60 miles northwesterly.

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#### GOLD STONE DISTRICT.

Chamber of Commerce and Mining  
Club Consolidate. Railroads  
Fix Ore Rates. Good Re-  
turns From Shipments.

Our Barstow (California) corre-  
spondent writes:

The Barstow Chamber of Com-  
merce has been Consolidated with  
the Mining Club, under the name of  
"Barstow Mines Exchange and In-  
dustrial Club." Mr. J. D. Hutchinson  
is president, and Mr. Eugene Worn,  
secretary. Mr. W. W. Brison is vice-  
president. The Committee on By-  
laws is: Geo. B. Parks, W. A. Gilham,  
W. W. Brison, R. M. Dillingham, and  
Carl Rümach. A good delegation will  
visit the meeting of the American  
Mining Congress at Los Angeles in  
September.

Mr. Scott Newcomer writes me that  
railroad rates have been obtained on  
ores from Barstow to the Victor-  
ville mill as follows: \$15 ore, \$1.50  
per ton; \$20 ore, \$2; \$50 ore, \$3. The  
Victorville Milling Company's charges  
on the various grades of ore run  
from \$3 to \$6 per ton. This mill is  
now running day and night.

A ton of ore from the Drumm-  
Barlow mine, 30 miles north of Bar-  
stow, sent to the Needles Smelter for  
treatment, yielded \$97 in gold and  
five ounces in silver. The ore was  
taken from the vein at the surface.  
The company will now sink an in-  
cline shaft.

Messrs. Hart, Halford and others  
interested in the Gold Stone district  
are putting down a shaft on one of  
their claims.

Smith and Parks have been sack-  
ing ore on the First Chance mine,  
north of Barstow. They intend ship-  
ping a carload which they expect to  
yield \$50 to \$60 per ton.

John T. Reed and others have a  
promising group of oil claims ten  
miles northwest of Barstow, on which  
they intend drilling. West of them  
near Hinkley, several oil derricks are

going up, whether for drilling or hold-  
ing the grounds does not yet appear.  
Experts state that the formation for  
miles west of Barstow is favorable  
for oil development.

N. K. Millett is building a small  
mill near Daggett to treat ores from  
old Calico mines, and elsewhere.

Water is scarce in the Gold Stone  
district, and there is talk of the coun-  
ty sinking one or two wells to aid  
the enterprising miners who weather  
the desert heat for gold. Wells and  
guide posts pay good dividends.

Meyers and Johnson of Los Ange-  
les are putting down drive wells for  
the ranchers at Otis, 60 to 140 feet  
to water. They get about 80 cents  
per foot. Water is plentiful and  
thousands of acres of lands near  
Otis can be watered from drive wells  
by pumping.

Mr. C. H. Roseberry has received  
returns from three carloads of ore  
he shipped to the smelter from his  
claims north of Otis; the three car-  
loads yielded an average of \$600 per  
car.

Superintendent Jos. Zanini was in  
Barstow last Sunday hiring men to  
work at the Cave Canyon Iron mines  
on the Salt Lake Railroad, at Scott  
siding, 55 miles east of Barstow.  
This is an immense deposit of iron  
ore, only one mile from the railroad.  
It is under option to the Iron Chief  
Mining Company at, as I am in-  
formed, a large figure. The Iron Chief  
Company is now doing development  
work. Over 1000 feet of work has  
been done on shafts, tunnels and  
crosscuts. About twenty-five men  
are employed.

MAY 21

PARKER POST. 511-1-129

Embryc City of Arizona Now Supplied  
With Weekly Paper.

Mr. J. B. Flanagan, for the past two  
or three years editor and publisher  
of the Enterprise, at Hart, Cal., has  
removed his plant from that place

and is now publishing the Parker  
Post, a bright, newsy, six-page paper  
chronicling all the important events  
in the great copper district of which  
Parker is the center. The Mining  
Review extends its hearty congratula-  
tions and hopes that the journalistic  
 fledgling will grow apace and pick  
up its full share of the seeds of cash.

MAY 7

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## Los Angeles Mining Review

29

### AMERICAN MINING CONGRESS.

Executive Committee In Charge of Convention Has Been Appointed.

At a meeting of the directors of the Sierra Madre Club, held last week, the Executive Committee which will have charge of the interests of the Club in the forthcoming convention of the American Mining Congress

### PARKER POST.

Embryo City of Arizona Now Supplied With Weekly Paper.

Mr. J. B. Flanagan, for the past two or three years editor and publisher of the Enterprise, at Hart, Cal., has removed his plant from that place

and is now publishing the Parker Post, a bright, newsy, six-page paper chronicling all the important events in the great copper district of which Parker is the center. The Mining Review extends its hearty congratulations and hopes that the journalistic fledgling will grow apace and pick up its full share of the seeds of cash.

June 11, 1910

## REVIVAL AT HART

Jumbo Mine Secured by Big Chief Mining Company, Controlled in Providence, Rhode Island. Active Development Upon a Large Scale Already Commenced. Extracts From Report Upon Which Deal Was Closed.

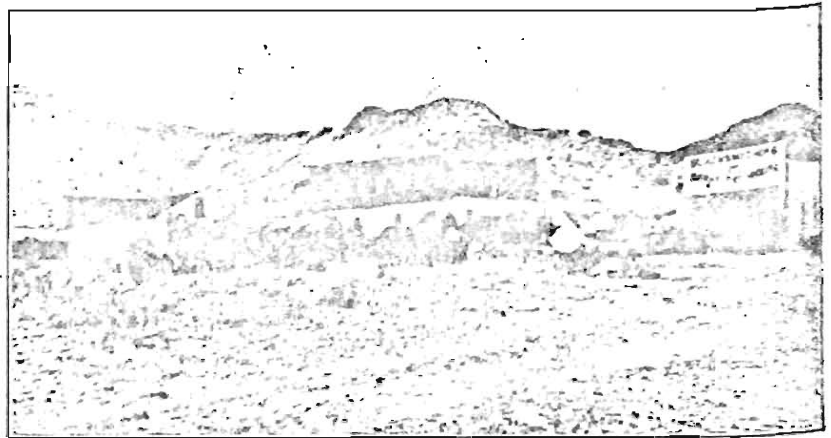
BY THE completion of negotiations carried on in this city for several weeks, the Big Chief Mining Company, controlled in Providence, R. I., has secured possession of the Jumbo property at Hart, San Bernardino county, California, and has already commenced systematic development. The property is generally acknowledged to be among the most promising in that portion of the country and has already produced some high-grade shipments of gold ore. The exact terms of the bond have not been made public, but it is known that the owners have considerably modified the arrangements formerly made with the same concern last year and that the payments will give ample opportunity for thorough exploration.

The purchasers were represented by Mr. John M. Welch, of the Commercial Development Company of Providence, who has been identified with the Big Chief Company from the earliest days of its history, when it owned property in Goldfield and took over a lease on the Oro Belle property at Hart. He has recently spent

of the Big Chief Mining Company to develop the Jumbo upon a systematic scale is of the utmost importance in its bearing upon the future of Hart, the nearest gold camp to Los Angeles, and a district that gives excellent promise, but which, with many other

seekers in that direction. At the time leases were taken by miners unable to stand the financial strain of prosecuting development in particularly hard formation in a new district where supplies commanded a high price, and after a few months the effort was shown in abandonment of a greater portion of the work.

This gave rise to the impression that the camp had failed to "make good," but it is apparent that it has never yet been developed to the point where such a statement can conscientiously be made. In fact, the story



Hauling Machinery to the Jumbo Mine.

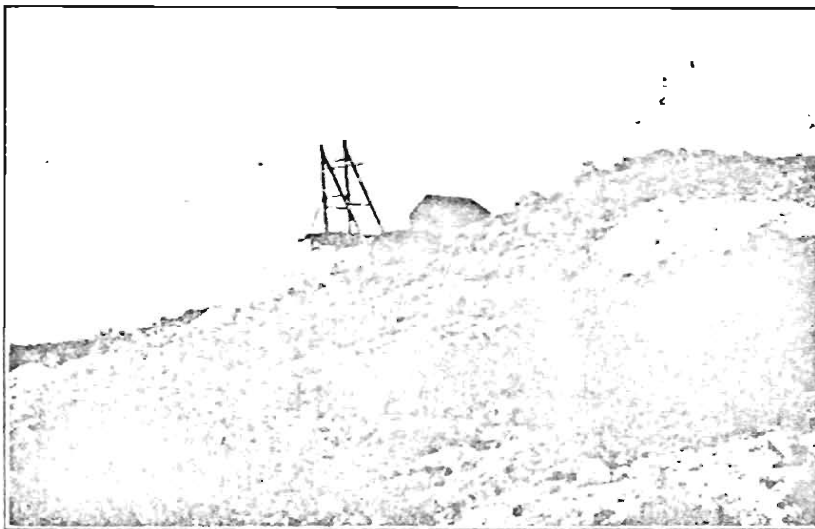
camp of the desert, suffered from over-inflation early in its history and subsequent inability to secure adequate capital for the development of

ings at the slight depth already attained are as good, if not better, than in any other district tributary to Los Angeles, and the Big Chief Mining Company believes that intelligent work will prove the Jumbo to be a productive mine. The decision to secure the property and spend a large sum of money upon development was only arrived at after exhaustive reports had been made by several well-known mining engineers. These were checked up finally by Mr. Earnest A. Haggott, of Los Angeles, and upon his conclusions was based the final decision of Mr. Welch.

The Mining Review has been placed in possession of Mr. Haggott's report and appends herewith some interesting excerpts therefrom. He says:

"The Jumbo group of lode mining claims is situated in the Hart mining district, eastern San Bernardino county, California, a few miles west of the Nevada state line. The property is about one-half mile east of the town of Hart, and comprises five claims covering seventy-three acres of surface area, joining the southerly end of the Oro Belle Mining Company group of lode claims.

"The equipment consists of one 20-horsepower hoist, gas driven, and



View of Jumbo Mine at Time of Purchase by Big Chief Mining Co.

several weeks in Los Angeles accompanied by Mr. W. F. Grant, a New York attorney, formerly connected with Governor Hughes, and who has had charge of the legal matters connected with the transfer.

The announcement of the intention

its excellent showing beyond the prospect stage.

It will be remembered that the district first came into prominence about two years ago and that the news of important discoveries of high-grade ore drew a large number of treasure

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te; one 12x12 Gardner air com-  
pressor, complete; one 40-horsepower  
driven engine, complete; two No.  
Leyner rock drills with full comple-  
ment of steel, etc.; complete black-  
smith, timber framing and mining

the ore dump of the Sloan shaft, with-  
out sorting, except to exclude the large  
boulders of ore which could not be  
handled, as there is no rock breaker  
at the plant. In all, 181.95 tons were  
shipped as per the above lots, and

Mr. Haggott estimates that the to-  
tal amount of ore actually in sight  
in the Sloan shaft and on the dump,  
including coarse and fine product,  
amounts to 476 tons, with an average  
value of \$22.05 per ton, and a gross  
value of \$10,516.50. The shaft has  
only been sunk to the 200-foot level  
and the showing at that point is equal  
to anything yet uncovered in the prop-  
erty. He estimates the cost of mill-  
ing on the ground at \$2 per ton, leav-  
ing a net profit of \$19.05 per ton. The  
assays upon which these figures are  
based include average samples of 200  
tons, running \$21.91 per ton; 150 tons  
running \$23.07 per ton; 100 tons run-  
ning \$25.79 per ton, and 20 tons of  
coarse boulders running \$24.72 per  
ton. In conclusion, Mr. Haggott says:

"From what has been said in the  
body of this report, it will be very  
evident that, in my opinion, this prop-  
erty presents very favorable condi-  
tions. I consider that it has positive  
merit from every view-point, and un-  
der proper working conditions it  
should develop into a good produc-  
ing mine.

"In my statement of geological and  
other conditions, I have been greatly



Mr. E. A. Haggott, E. M., and Mr. John M. Welch, of Providence, R. I.,  
on the Jumbo Dump.

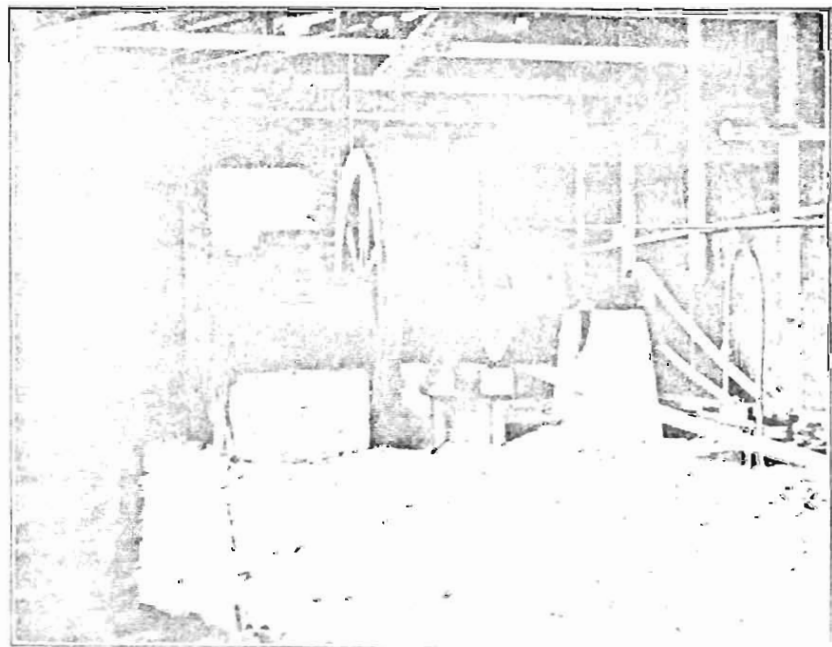
tools outfits. The above mechanical  
equipment is excellent in every detail,  
and sufficient for the production of  
500 tons of ore daily, besides caring  
for the necessary advance develop-  
ment.

A shipment of 21,795 pounds of  
high grade ore from the Sloan shaft  
works to the Selby Smelting Com-  
pany, Selby, California, averaged 8.81  
ounces gold per ton and yielded a net  
return of \$1540.87. Seventy  
tons of ore from the Sloan shaft dump,  
milled in a three-stamp mill at Search-  
light, Nevada, gave a net return on  
100 tons, shipped to the U. S. mint at  
San Francisco, of \$3361.41. This repre-  
sents an average net saved value per  
ton of \$17.68. The average tails loss  
in this milling operation was \$8.58 per  
ton, which shows a gross value of  
\$17.68 and \$26.26, or \$24.26 per ton of

The net saving was entirely by  
amalgamation on plates. It is more  
likely that the loss could be  
largely cut down by more careful me-  
chanical work. In regular mill work  
on the ground the tails would be im-  
proved and at some future time be  
recovered by the cyanide process.

Part returns on another shipment  
of 75 tons from the Sloan shaft dump  
show a gross yield of \$38.00 per ton.  
A shipment, together with another  
of 36.18 tons, is now being milled.  
The above shipments were from

from this twenty tons of boulders  
were sorted out. These boulders are  
shown on the plan and sample map of  
the Sloan shaft dump and their value  
is represented by sample No. 348.



Compressor House of the Jumbo Dump.

which was taken by breaking about  
thirty pounds of pieces from boulders  
in all parts of the twenty-ton dump  
and showed a gold content of \$24.72  
gross per ton."

added in a previous study of the  
district and by a careful examination of  
the same. A study of the geological  
and other conditions that exist at  
Goldfield, Nevada, Searchlight,

JUN 25

# GREAT GOLD BELT 1910

Local Company Quietly Developing Promising Gold Property in San Bernardino County. Now Figuring Upon the Erection of Mill. Water Struck at a Depth of Two Hundred and Fifty Feet.

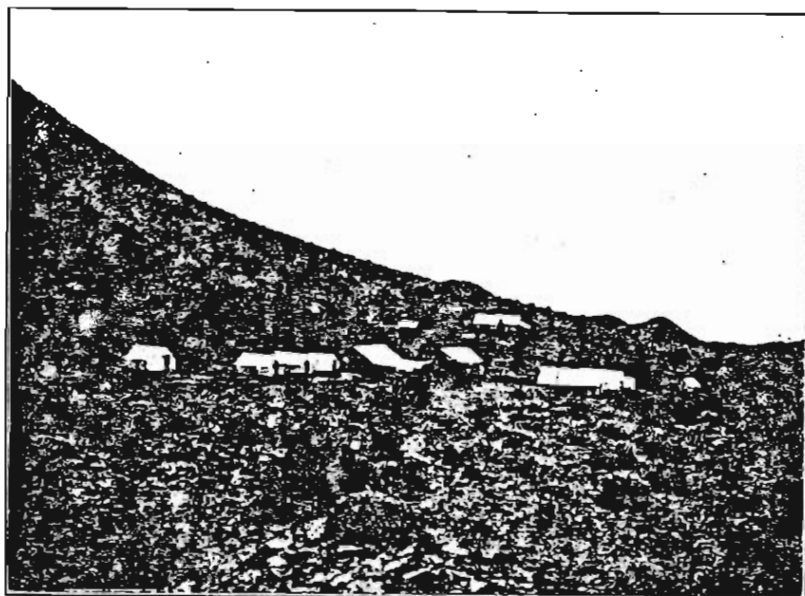
FOR the past year and a-half the Great Gold Belt Mining Co., a Los Angeles company, has been quietly carrying on development work on its gold property about twelve miles north of Amboy, San Bernardino county, California. The property was located by Heath Bros. a number of years ago, they having been led to it by a Plute Indian who had extracted gold by arastra from some of the small surface veins with which the property abounds, after packing the ore to the nearest water at "Dad's" mountain, fifteen miles distant. The surface conditions there are geologically identical with those of Searchlight. In fact, even an expert would be unable to distinguish one ore from the other.

The ore bodies, or veins, resemble a huge stockwork, and in size vary from a few inches to eight feet in width; in values from \$5.00 to \$1800.00 per ton, with large bodies of fair grade ore ready for stoping.

Mr. L. I. Plummer of Los Angeles, seeing in this property a meritorious prospect, organized an eastern company to develop it. Several shafts were sunk, the deepest being 250 feet, and several hundred feet of drifting and tunnelling run on the ore bodies, with the result that there is now on the dump a large tonnage of ore awaiting the construction of the mill, which will soon be installed, as water has been struck at a depth of 250 feet in the San Antonio shaft.

The original holdings of the company consisted of five claims which had been superficially prospected in

the early days by old timers, the arastra used by them being still at the mill site when the present holders acquired the property. After careful prospecting and exploration the company continued to acquire property until it now owns twenty-six claims.



Camp of the Great Gold Belt Mining Company, Twelve Miles North of Amboy, San Bernardino County, California.

About fifty miles to the north of this, which is called the southern camp, the company owns four claims in the New York mountains. The ore in both localities carries gold, silver and copper values in paying quantities. Molybdenum and tungsten have also been found on the claims of the northern camp.

cient ore to justify the erection of the proposed mill.

The company's affairs are in charge of L. I. Plummer, president, assisted by Dr. Samuel H. Baker a heavy stockholder. The other officers are: C. B. Barnes, vice-president; Clarence G. Mann, secretary; Geo. A. Mattorn, treasurer; L. J. Ollier, J. L. Benton and W. P. Bateman, directors.

## UNDERGROUND FANS.

Interesting and Successful Experiments in the Rand Mines, South Africa.

Our London (England) correspondent writes:

Interesting news comes to hand on the employment of underground fans in the deeper levels of the Rand. A Sirocco fan has recently been installed 2,000 feet deep in the Village Deep mine, and in the Cinderella Deep mine a 5-foot Capell fan has been running for over twelve months at a depth of 3,750 feet. This mine is worked from a single shaft of five

compartments, which is carefully bratticed to ensure a proper circulation of air. Two compartments are used as the downcast, the current being led 4,000 feet directly to the bottom of the shaft, some 250 feet below the station at which the fan is erected. At a little below 4,000 feet a cross-cut south connects the shaft with the upthrow portion of the reef. A main incline continues down under the reef from near the point of intersection by the cross-cut, and the current from the foot of the main shaft follows this main line of entry down to the bottom of the incline to a depth of nearly 4,600 feet.

From this point it descends to the levels, winzes, and stopes, and so upwards until it reaches the short cross-cut to the shaft at the 3,750-foot level, where the fan is located. Thence the passage is up the remaining three compartments of the shaft to the surface. There will shortly be some 800 men per shift working in this mine at a depth approximately 4,000 feet from the surface. The capacity of the fan is 50,000 cubic feet per minute.

## Duluth Stock Exchange.

The Mining Stock News of Duluth, Minn., reports that during the eleven months since its organization the Duluth Stock Exchange has done a business amounting to \$4,211,862.

JUN 25



SEP 24 1911

In the matter of the enactment of adequate mine inspection laws, this organization can exert a powerful influence.

The American Mining Congress represents not only the metal and coal mining interests, but also natural gas and oil producers and the stone and clay operators. The cement, lime, and brick manufactures each have their own national organization, and it is quite probable that the Mining Congress will never be able to very extensively interest these men, as individuals, in the work in which we are engaged. However, if we do not succeed in sufficiently interesting them to induce them to become members of the organization, we can at least secure the interest and co-operation of the associations which directly represent their industries.

The National Lime Manufacturers', and the National Brick Manufacturers' associations were each active in securing the enactment of the law creating the Federal Bureau of Mines during the last session of Congress. It would be extremely helpful were it possible to secure the active co-operation of these organizations in reaching conclusions relative to the questions referred to above.

The American Mining Congress should soon have a membership of ten thousand mining men, representing all the various districts in the country and all the various branches of the industry. I look forward to a time when it will stand as the representative of the mining industry in all matters pertaining to legislation, either Federal or State, as it affects the development of our mineral resources or the protection of the property and lives of those engaged in this occupation.

In the enactment of any laws regulating the disposition of our public domain or the conservation of our mineral resources this organization can wield a powerful influence, providing such questions are considered conservatively and impartially. Much weight should be attached to any petition bearing on these questions which this organization may send to Congress, or to the legislatures of the several states.

I conceive that this organization, while receiving the hearty endorsement of the coal operators of the East, must eventually receive its chief support from those engaged in mining in the Western states. All the great scientific organizations of the country have their headquarters in the East and their annual meetings are usually held near the Atlantic coast. It is therefore fitting that the American Mining Congress should maintain its official residence somewhere between the Mississippi river and the Pacific ocean.

This organization places no restrictions on its membership, except that the individual be actively associated with mining. The permanent headquarters are now located at Denver, Colorado, and it has been the hope of those who laid the foundation for this organization that there might be, in that city, a temple which would stand as a monument to the mining industry as long as the nation lives. The hope that such a building may be erected, either in Denver or in some other Western city, has not been abandoned, and it is expected that before many years there will be found some philanthropist in the West who will be glad to erect such a temple as a monument to himself and to the industry from which he obtained his millions.

It is the hope that this building, when constructed, will constitute the headquarters for all mining men of the country, while in the West, and that therein may be brought together collections of minerals and ores, representing all the mining districts of the West. This building

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should also be a depository of publications on mining and there should be brought together records showing the character and development of the mines in the various districts throughout the Western part of the country.

During the life of this organization it has been recognized that there are many questions of a local character which cannot be passed upon satisfactorily by the national organization and for this reason branch organizations are being established in the different states, the members of which are also members of the national organization. Resolutions passed by the branch organizations may be referred to the national organization, discussed by them and approved when within their jurisdiction. From the national organization the branches can receive much assistance in matters of local import. In time branches should be organized in all the important mining districts in the United States and eventually the annual session of the mining congress itself may be merely a meeting of representatives from the branch organizations, brought together to consider questions which are national in their scope. It ought not to be very many years before the delegate feature of the Congress is entirely eliminated, the organization being supported solely by its members.

The Mining Congress is enjoying a steady and healthy growth. Its influence is increasing each year and it will not be long before it will stand pre-eminently as the representative of the mining industry of this country.

## KERN RIVER SEP 24

Gold Properties Opened in the Early Days Still Offer Excellent Opportunities for Capital.

(BY C. S. LONG, OAKLAND, CALIFORNIA.)

QUARTZ mining on Kern River followed soon after the placer excitement of the early 50's. Langley's register shows nine quartz mills and twenty-five arrastras operating as early as 1858, a fact necessarily demonstrating the presence of rich gold ores.

Among the first gold quartz discoveries was the Beau regard mine, in Coe Mining District, which yielded large profits owing to the fact that it was easy ground and could be mined with pick and shovel.

The Jeff Davis, Bull Run and Lady Belle—parallel veins—were soon thereafter discovered. The ore bodies were not very large, but produced extremely high grade ore of the free milling class. Shafts were sunk about 100 feet apart, each location being entitled to that length of vein.

On the Sumner, an ore body of large extent, an adit level was run 80 feet below the surface which developed \$80 and \$100 rock, and later, after the famous Big Blue mine, further south, was operated. It was found that a system of parallel veins, assuming a great width, also extended north into the Sumner.

Adjoining the Big Blue on the south is an immense deposit of low grade ore patented as the Content mine. 2700 feet in length by 600 feet in width. This property, like the Red Hill on the north end of the Sumner, has an elevation of 400 to 500 feet above the adit level, or drainage tunnel in the Big Blue mine and is favorably situated for mining by the quarry plan. The Nellie Dent is an extension of the Content and was extensively operated in the 70's on ore of good average grade.

An abundance of water and power in connection with these mines provide an excellent opportunity for mining and milling at an extremely low figure per ton. The following companies control the land, water power and mines: The Kern Development Company and Lady Belle Company of Maine, the Big Hill and Oro Jana Mining Company of California.

# TUNGSTEN AND VANADIUM

Southern California Second Only to Colorado in the Production of These Rare Metals and the Country Has Been But Partially Explored. Principal Producing Areas in the Great Southwest.

(By Gordon Surr, San Bernardino, California)

SEP 24

AN EXHAUSTIVE article is apt to prove exhausting to the average reader, and, as it is impossible to briefly describe in detail all the known tungsten deposits and occurrences of vanadium in the Southwest, a general view is here taken. Although tungsten and vanadium are styled rare metals, tungsten ores occur in every continent and in some of the islands of the sea, while small amounts of vanadium have been found in nearly all kinds of rocks and in coals and plants, the spectroscope, moreover, revealing its presence in the sun. Ores of these metals have, however, been discovered in no locality in large quantities, that is compared to more abundant ores such as those of copper and lead. In fact, the United States produces a considerably greater tonnage of pure silver than of tungsten, yet this country is among the leading producers of tungsten ores. Colorado furnishes much more tungsten than any other state, California being second in order of production, the California output having hitherto come practically entirely from the southern part of the State.

There are also tungsten deposits in several districts in Arizona, Nevada, and New Mexico, and among southern California localities may be mentioned the Atolia and Randsburg region, the Clark Mountain district near Ivanpah, the Signal district east of Vontigger, the Amalie district near Caliente, the New York Mountains, and some localities in the vicinity of or reached from China. Among Arizona regions are the Little Dragoon Mountains, Arivaca, some sixty miles southerly from Tucson; the Aquarius Range, about fifty miles from Kingman; the Whetstone Mountains, twelve miles from Benson; a locality eighteen miles from Yucca; another seven miles from Nogales, and the Old Hat district in the Santa Catalina Mountains. This list is not only far from complete, but from time to time new localities are discovered in the Southwest, as until a few years ago little attention was paid to tungsten ores. The tungsten minerals in this part of the world generally occur in quartz veins in granite, although in some cases the country rock is mica-schist and in others limestone.

By far the most important district in California, in point of production, is the Atolia region, where scheelite, or tungstate of lime, was discovered in 1904. The scheelite here is usually almost white and looks much like coarse limestone; it occurs as bunches and seams in veins and, until recently, was the only tungsten mineral found in the district. Mr Samuel H. Dolbear, however, informs the writer that wolframite has been lately discovered. The country rock at Atolia is a weathered granite while the vein-matter is quartz, altered granite, and lime carbonate. The ore is concentrated in the mill at Atolia, water for the plant being obtained from Hinkley, forty-six miles distant, from whence it is brought by rail in tank-cars. The mill belongs to the Atolia Mining Company, which employs from thirty to forty men. The material milled averages some 6 to 8 per cent of tungsten trioxide and the concentrates carry 67 to 68 per cent. Tung-

sten ore, it is said, has not hitherto been found in commercial quantity in the Atolia district at a greater depth than 200 feet vertically below the surface.

In the Stringer district, westerly from Atolia, shallow placers, which carry gold and tungsten, are being worked. The overburden is removed by teams and scrapers and the remaining one or two feet of material is crushed in a stamp-mill at Johannesburg, the gold being amalgamated and the scheelite saved by concentration.

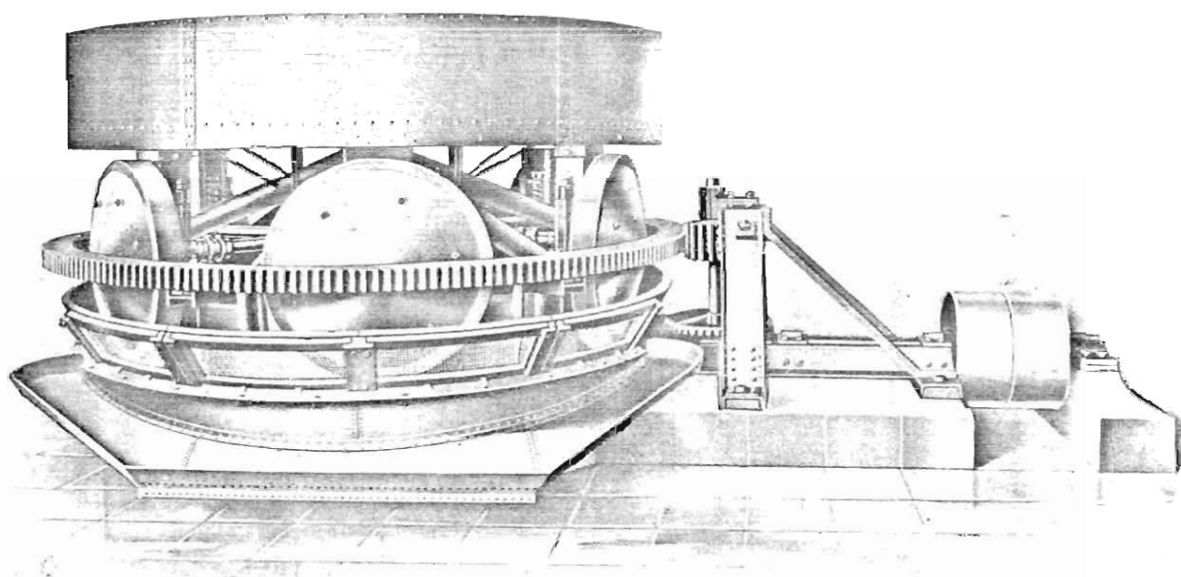
In the Clark Mountain district wolframite and scheelite occur in quartz veins in granite, the scheelite generally having a gray or brownish tint, and at last accounts these minerals had been followed for 130 feet below the surface. The sulphide of antimony known as stibnite and the quicksilver ore, cinnabar, are also found in the veins in places and although stibnite is associated with tungsten minerals elsewhere, the occurrence of cinnabar in tungsten deposits is decidedly unusual.

The Little Dragoon Mountains produce more tungsten than any other region in Arizona, hubnerite and small quantities of usually yellowish scheelite occurring here in quartz veins in weathered granite. The bulk of the production of this district is obtained from tungsten placers and "float," resulting from the weathering and erosion of the veins and country rock, concentration being effected in the wet season by rockers and long toms. Hammers, small rock crushers and hand-jigs are also used, and Mexicans are employed at so much a pound for the clean ore or concentrates. These methods may seem crude, "but wisdom is justified of all her children," and the concentrates seen by the writer, when in the region, were of excellent quality and as clean as could be wished. A mile of gulch is said to have yielded 70 tons of concentrates, averaging 60 per cent of tungsten trioxide, which brought 22 cents a pound, or over \$30,000 for the lot. This is at the rate of \$7.33 per unit, or 20 pounds, 60 per cent tungsten ore or concentrates being now quoted at \$7.50 per unit. Tungsten trioxide, by the way, is generally, but wrongly, termed tungstic acid. Judging by the extent of the placers and by the amount of float, the veins have been carried away to considerable depths and possibly only their roots now remain.

A half-interest in some claims in this locality was sold some years ago for less than \$250, and within four months the buyer cleared over \$10,000 from shipments of tungsten ore. In another case a couple of prospectors in Arizona drove a tunnel on a vein which, in addition to a little gold, carried a mineral they classified as "hematite of iron," and threw on the dump, although it is hard to see how it could well have been hematite of anything else. One day a stranger put in an appearance and identified the "hematite of iron" as tungsten ore, but kept his knowledge to himself. Later the prospectors, becoming discouraged, neglected their assessment work and when the title had lapsed the aforesaid stranger returned, located the claim, and straightway proceeded to ship the tungsten ore on the dump. It is evidently a pretty good plan not to jump to conclusions regarding unknown ores, but to find out what minerals are before throwing them away or abandoning prospects. According to report the dumps

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Los Angeles, Cal.

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## SOUTHERN CALIFORNIA

Lower Tier of Counties in the Golden State Contain Unlimited Variety of Mineral Products. Opportunity Stalks Through its Treasure Hills

(BY SAMUEL H. DOLBEAR, JOHANNESBURG, CALIFORNIA.)

NATURE has been lavish in her mineral gifts to Southern California; it is doubtful if as great variety of mineral products can be found elsewhere in the world. Its resources are by no means all discovered, the mineral industry in many cases being in its infancy. The portions of the country formerly inaccessible are being rapidly provided with railway and transportation facilities. Markets for mineral products naturally grow with a rapidly increasing population, and the possibility of supplying the eastern and far eastern demand has only just begun to receive consideration.

The oil fields in Kern county and their possibilities are too well known to permit of any discussion here. Kern county has been the principal producer of petroleum in the State for many years, and its recent development has probably made it the world's greatest producer. Kern county is also the banner county in Southern California in the production of precious metals.

In production of borax, San Bernardino county has been the principal contributor in the world. Los Angeles

district are the Eutte Lode, Little Butte, Stanford, Gold Coin, Baltic, Gold Bug, Sunshine, La Crosse, Napoleon, Corona, Sydney group, Winnie, Windy, Houser, Pearl, Wedge, and Merced.

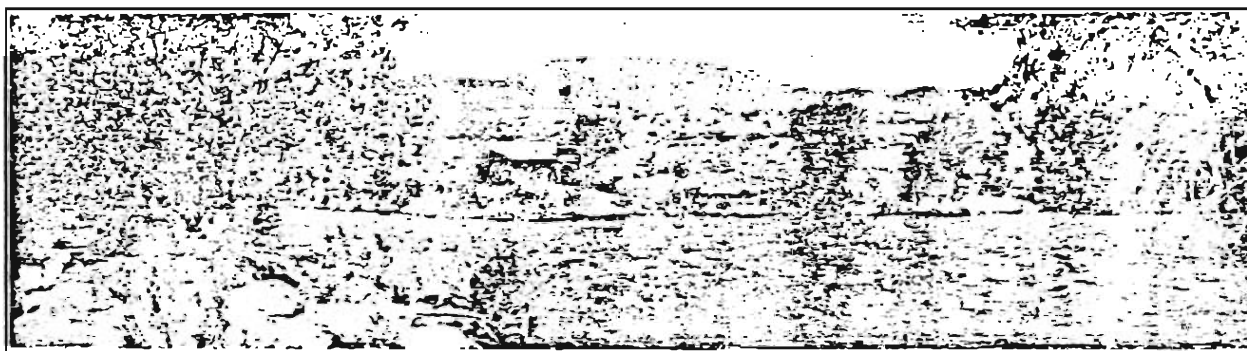
At Mojave the Queen Esther is a large producer. A dry crushing mill, with a capacity of 130 tons daily and cyanide plant are installed at the mine. The San Antonio mine is a small producer.

At Plute there is a large output of gold and silver ores. The Kern County Consolidated Mining Company has a three-stamp Hendy mill, and has done many hundred feet of productive work. The Castle Rock and Jeanette mines are productive in a small way.

At Paris the Minnehaha is equipped with a stamp-mill and concentrator and has done much development work.

At Amalie, Havilah and Resamond, development operations are in progress.

The Golden mine at Callente has a twenty-ton crushing and concentrating plant.



Old Sumner Mine, Kern County, Cal.

county is rapidly claiming this title; the deposits of the Stauffer Chemical Co. at Lang are probably the largest and purest ever discovered. In cement, lime, rubble, turquoise and tungsten, San Bernardino county is the heaviest contributor in the state.

Another title is claimed by San Diego county, whose tourmaline mines are the largest in the world.

## Kern County Metal Mines.

At Randsburg the Yellow Aster mine ranks among the leading gold producers of the state. Since its discovery in 1895, it has produced about six million dollars. The mine is equipped with two mills aggregating one hundred and thirty stamps. Its present rate of production is probably \$40,000 to \$50,000 per month. Other mines in this district have produced about \$1,500,000. Aside from the Yellow Aster mine, there are no other large operations. In many of the mines the ore occurs in lenses, which are located by much "dead" work and operated under lease. These leasing operations are generally profitable.

There are 184 stamps in the Rand mining district, and with the exception of thirty, all are in operation.

Aside from the Yellow Aster, the producers in the dis-

trict are the Eutte Lode, Little Butte, Stanford, Gold Coin, Baltic, Gold Bug, Sunshine, La Crosse, Napoleon, Corona, Sydney group, Winnie, Windy, Houser, Pearl, Wedge, and Merced.

The production of gold and silver from Kern county, in 1908, was, according to the United States Geological Survey, \$923,637. The writer believes that this figure is somewhat less than the actual production.

An insignificant amount of copper was produced.

## San Bernardino Metal Mines.

In San Bernardino county considerable prospect development is going on in various places. These prospects in some instances are small producers, treating their ores at the plant of the United States Smelting, Refining and Mining Company at Needles. Others ship their ores to various custom amalgamation and cyanidation mills.

There is some development work going on at the Wake-up-Johnnie camp, twenty-four miles from Barstow. This camp was discovered early this year.

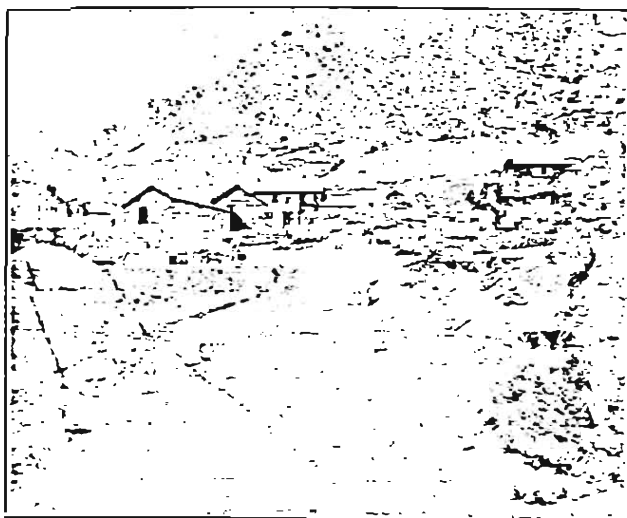
At Bagdad the Orange Blossom Mining & Milling Company has been reorganized, being known as the Bagdad Mining & Milling Company. This mine is equipped with a twenty-stamp concentration mill. The power plant is nine miles distant, having an electric transmission line, and is equipped with a 150-horsepower gasoline engine.

At Barnwell and Vanderbilt only small operations are

at present conducted. The Sagamore and Giant Ledge Gold and Copper companies have promising properties and are operated intermittently.

Hart is one of the newer camps, having been discovered in 1908. The discovery was attended by a spectacular rush and almost over-night a town with a population of several hundred sprang into existence. A few carloads of ore have been shipped from the Big Chief mine. Water is piped from Barnwell.

At Cima the Death Valley-Alcavada mine has shipped some ore carrying gold, silver, lead and zinc. The mine



Cerro Gordo Mines, Inyo County, Cal.

is well equipped with a hoisting plant, air compressor and camp buildings, but has been idle for some time owing to litigation. Other mines at Cima are the Standard, which has shipped some ore to Salt Lake smelters; the Silver King and Old Dominion, which have produced some copper, and the King Thebaw mine, a silver property which has a small production to its credit. Development work is being carried on in a small way at other properties.

The Ivanhoe mine is equipped with a twenty-ton crushing plant.

There is but little activity in the Calico district, north of Daggett, and recent production is nominal. W. K. Millet has recently installed and is operating a custom crushing and cyanide mill.

At Virginia Dale the Seal of Gold Mining Company has a forty-stamp mill but is not operating owing to litigation.

The lead output from Ord Mountain district has recently been small.

At Leastalk the Garavanza mine is equipped with a one hundred-ton crushing, concentrating and lixiviation mill, but production has been small. About 2000 feet of tunnel, shaft, and lateral work has been done.

At Danby the Siam Mining & Milling Company is an occasional shipper.

In the Ivanpah district the Copper World, operated by the Cocopah Mining Company and controlled by the Needles smelter, has been a large copper producer.

The Coliseum mine, controlled by W. B. Devereaux & Sons, has developed a large body of pyritic ore. Fifty thousand tons are in sight. The Ivanpah Mining Company has done a large amount of development work. There has been no production.

A considerable amount of development work has been carried on at Silver Lake, where the Avawatz Crown mine has shipped some ore.

The Fulton Gold Mining Company, operating at Shadow Mountain, is a gold producer.

The California Gold and Copper Company, owning the Vontrigger copper mine, has recently installed a 100-ton leaching plant at the mine.

There are about seventy-five producing mines operating in various parts of the county. The production of gold and silver in San Bernardino county in 1908, according to figures of the United States Geological Survey, was \$216,214. Copper production was 201,993 pounds, and lead 117,024 pounds, having a total value of \$247,793. The total mineral production for 1909 was probably in excess of \$650,000.

#### Metal Mines of Other Counties.

The production from the metal mines of Riverside, San Diego, Imperial, Los Angeles, Orange, and Ventura counties is small, the yield from all being about \$10,000 annually.

There are forty or fifty mines of which possibly fifteen are intermittent producers.

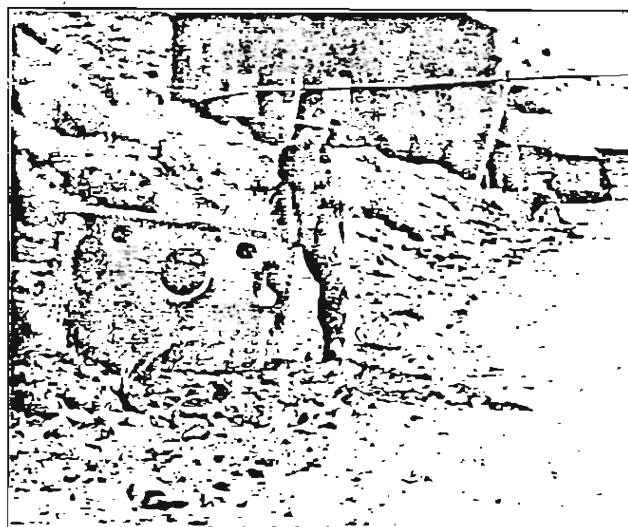
#### Miscellaneous Resources.

**AGATE.** This ornamental material is found in several places, but has not been mined to any extent.

**ASBESTOS.** Two veins are known to exist near Cottonwood.

**ANTIMONY.** Antimony is found in the Clark Mountains, where stibnite occurs interspersed through the ore. Several hundred feet of work has been done on the Antimony group and several hundred tons of ore are said to be on the dumps. So far as is known, no shipments have been made.

An undeveloped vein of solid stibnite, four feet wide, is reported in Kern county, eighty miles from Bakers-



Old Water Jacket Furnace at Cerro Gordo Mines, Inyo County, Cal. Built in 1873.

field. At Sunset, in Kern county, the Buffalo antimony mine has two veins four feet in width, which have been opened up to a depth of seventy-five feet. The Kern County Land Company also owns an antimony property, which remains unoperated owing to cost of transportation.

At Mojave the Mojave Antimony Company has done a small amount of work. The Rayo Mining Company also owns a deposit at Vaughn.

**BORAX.** Borax in San Bernardino county has largely been mined in the Calico district by the Pacific Coast Borax Company, American Borax Company and Western Minerals Company. The Lila C. mine of the Pacific Coast Borax Company at Amargosa, has been the largest individual producer. Borax was first discovered at Searles Lake and a plant was built and operated by the San Bernardino Borax Mining Company. The mineral was taken from the tinal beds. The discovery of Colemanite nearer to transportation, and less extensive methods of producing borax from Colemanite, resulted in the closing of this plant.

At Lang, in Los Angeles county, the Stauffer Chemical Company owns probably the largest and purest borax deposit in the world.

**BAUXITE.** Bauxite exists in several apparently large but undeveloped deposits. It is found in both alluvial and hard rock deposits near Hart, and is of a grade suited to fire brick manufacture.

**CEMENT.** The manufacture of cement in San Ber-

from local beds. At Rosamond the Los Angeles Stone-ware Company operates clay beds and manufactures firebrick and pottery. Limited space prevents the enumeration of the many clay deposits.

**FULLER'S EARTH.** Near Bakersfield a fifty-foot bed of Fuller's Earth has been worked, by open pit methods, by the California Fuller's Earth Company. It is also found in less quantity in Riverside and San Diego counties.

**GRAPHITE.** The Lestrage mine at Calico is said to have a four-foot vein of graphite.

**GLAUBER SALTS.** Sodium sulfate, as glauberite, fairly pure, or as one of its double salts of sodium carbonate or chloride, is found in many of the alkaline dry lakes. Near Hinkley and at Soda Lake, in San Bernardino county, attempts have been made to manufacture this material for the glass trade.

**GYPSUM.** Locally the gypsum deposits are of economic importance, although its products find markets in other western states. Deposits of economic importance



A Poignant Memory. Workings of Furnace Creek Copper Co., Greenwater, Cal., where Spectacular Boom Took Place Four Years Ago.

nardino county is one of its large industries. The California Portland Cement Company, with mills at Colton, has a large output. At Victorville, cement mills, representing an outlay of several hundred thousand dollars, are nearing completion.

**COBALT.** Cobalt, associated with nickel is said to exist in the Semi-Tropic mine at Ontario, and in the Silver Lake region.

**CORUNDUM.** Is found in San Bernardino county, east of the Kingston range, and near the California-Nevada line.

**COAL.** One-half mile east of Cajon station, in San Bernardino county, there is a seven-foot seam of lignite. The outcrop is of an inferior quality. In Orange county, the Santiago coal mine has produced considerable amounts of bituminous coal. The vein is reached by an incline, and aside from stopes, there are several thousand feet of workings. Only a few miners are employed at the present time, and the market is entirely local. The Randsburg Coal and Power Company, formerly developed several small seams of bituminous coal near Garlock.

**CLAY.** Deposits of clay, suited to the manufacture of building brick, are found in many places in Southern California. Near Los Angeles the Simons Brick Company manufactures many million bricks each year

exists in Los Angeles county at Palmdale; and at Lang, a deposit at Castaic was formerly worked. At Palmdale the Fire Pulp Plaster Company, and the Alpine Plaster Company are working deposits, each operating plaster mills near the beds.

In San Bernardino the Pacific Cement Plaster Company is operating a periodic lake deposit of considerable extent, near Amboy. This company's mills are located at Amboy. Deposits have also been worked near Corona.

Kern county has a number of deposits and the California Gypsum and Mineral Company's deposit, near McKittrick, is equipped with a small plant for the manufacture of this material. Abbot & Hickox have shipped about 5,000 tons from deposits two and one-half miles from McKittrick. A gypsite deposit at Kane Lake, near Randsburg, was recently acquired by one of the Palmdale concerns. This bed is said to be nine feet in thickness.

Large deposits, probably the largest in California, are found in the Palen Mountains in Riverside county. On account of its distance from railroad the material cannot be marketed.

**IRON.** The principal iron ores in Southern California are the Eagle Mountain, Iron Mountain, Cave Canyon, Providence Mountain and Newberry deposits. The Owl



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## NON-METALLIC PRODUCTS

California Presents a Boundless Field For Development of Chemical Industries. Forging Rapidly to Premier Place in the Union.

(BY GILBERT E. BAILEY, LOS ANGELES, CALIFORNIA.)

CALIFORNIA possesses the raw materials, in quantity and quality, that will in time make it the leading State in all forms of chemical industries. It is the only State in the Union today mining and producing borax, magnesite, lepidolite, and chrome iron; and it is unique in its natural soda deposits, asphalt, niter, quicksilver, gems, onyx, and many others.

**Borax.**

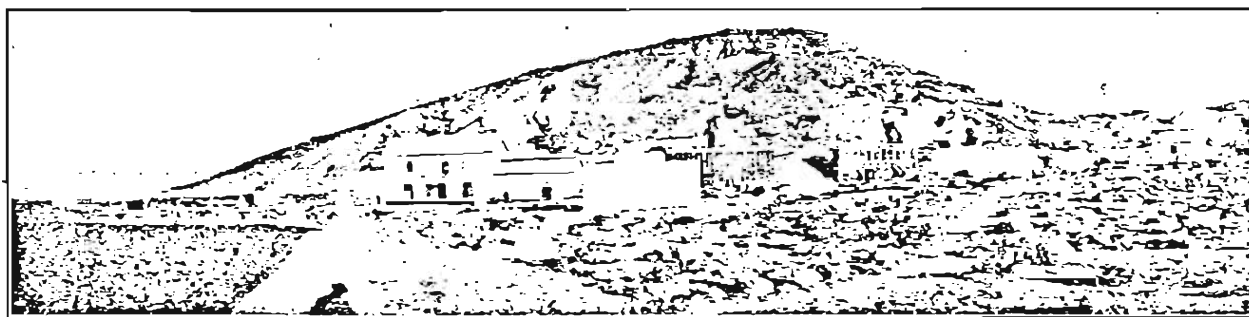
California continues to be the only State that produces borax in commercial quantities. The operators confine themselves to working the higher grade colemanite ledges, owing to the low market price for refined borax and boric acid. All low grade mines, "marsh deposits" and periodic-lake deposits remain unworked, and mines too far from the railroads have shut down.

The principal production now comes from the colemanite mines of the Pacific Borax Company at Ryan, in the Death Valley district. The ore comes from the Lila C

hibitive to points east of the Rockies. The California product is a better quality than that imported from Greece and Hungary. In 1905 the United States imported from these two countries crude magnesite to the amount of 39,526,865 pounds, worth \$81,578, or \$4.13 crated per short ton in the foreign countries. We also imported 129,462,109 pounds, in 1908, of the calcined and not purified magnesite, worth \$10.12 per ton or \$655,245. New York prices at the same time ran from \$6.30 to \$7.10 for the crude; and \$16.75 to \$25 for the refined and calcined. The California output in 1909 was 6587 short tons, worth \$19,761. This is one of California's many arguments for the prompt opening of the Panama Canal. So long as crude borax can be shipped from this coast to points in Germany for less than two dollars per ton ocean freight, miners here should be able to ship to our own Eastern ports for equal rates.

**Soda.**

The periodic lakes (so called dry lakes) of the desert



Greatest Borax Mine in the World—the Lila C, at Ryan, Cal.

mine, and is colemanite—borate of lime—that carries from twenty to over forty per cent. boric acid. A branch of the Tonopah and Tidewater railroad to the mine enables the ore to be loaded direct on through cars for shipment East. The only mines of the Sterling Borax Company now working are those at Lang, a station on the Southern Pacific railroad in Los Angeles county, two hours ride north of this city. Most of the material mined is shipped crude to the East for refining, although some is refined at San Francisco.

Imports have fallen off and the needs of the United States are very fully filled by the product of the California mines. The prevailing low prices are stimulating the use of borax and boric acid in new lines. The Sterling Borax Company is reported to have completed its large refinery in Germany and to be shipping crude ore directly there for refinement.

The value of the crude ore, at the mine, for the last few years, is as follows:—1903, \$661,400; 1904, \$698,810; 1905, \$1,019,154; 1906, \$1,182,410; 1907, 1,121,520; 1908, \$975,000.

**Magnesite.**

The only deposits in the United States that are commercially utilized are those in California, yet the output is limited to the Pacific Coast, as freight rates are pro-

hibit large deposits of natural soda, principally in the form of sulfate, and carbonate.

Owens Lake is estimated to contain twenty-two million tons of sodium carbonate, eight million tons of potassium sulfate, one million tons of borax, and forty million tons of salt in solution. Mono Lake contains even more, according to the calculations of Mr. Chastard and another authority of the United States Geological Survey, the estimates being as follows: Magnesium carbonate, one million tons; potassium chlorid, ten millions; sodium sulfate, forty-seven millions; sodium carbonate, ninety-two millions; sodium borate, one million, and sodium chloride eighty-six millions of tons.

Searles Lake, Soda Lake, Danby, Amboy and others also contain vast quantities both as surface deposits and as bedded layers. Soda has been made in considerable quantities at Owens Lake and elsewhere, but freights and market conditions have not been favorable. Large works have been erected at Searles Lake, and Soda Lake but are not in operation.

The remains of ancient lake beds of Eocene and Miocene age flank the borders of Death Valley and many of the desert ranges contain workable beds of sodium carbonate, sulfate, nitrate, borate, and chlorid. The quan-

## LEWIS E. AUBURY



**M**R. LEWIS E. AUBURY, State Mineralogist of California, is a true product of the State, having been born at Dutch Flat, the famous placer diggings in Placer county, in 1862. Practically all his early life was spent in the atmosphere of the mines and at the age of sixteen he joined the rush to Bodie and remained there for several years. Later he went to Arizona and for

several subsequent years engaged in prospecting and operating upon his own account. He then took a course in assaying and metallurgy and for some years practised that profession, in New Mexico, at San Diego, where he remained four years, and in Los Angeles. In 1901 he was appointed to his present position by Governor Gage and since that time has devoted his entire time to his official duties. In the nine years covered by his incumbency Mr. Aubury has built up what is unquestionably the best mining bureau in any State of the Union and possibly in the world. He has also made consistent efforts to rid the State of fakers and public land thieves. He has instituted many suits with that purpose in view and has unquestionably done much towards placing the mining industry in California on a higher plane. Mr. Aubury is now a resident of San Francisco, but spends a considerable share of his time in Los Angeles, where his mother still lives. Mr. Aubury is an honorary first vice-president of the Sierra Madre Club.

## JAMES W. ABBOTT



**M**R. JAMES W. ABBOTT, was born in Whitinsville, Mass., Aug. 29, 1846, and graduated a Bachelor of Arts at Yale in 1868. He was made a Bachelor of Science in the Civil Engineering Department of the Sheffield Scientific School in 1870 and spent one post-graduate year at Yale, receiving the Degree of Master of Arts in 1871.

He began practice of engineering in Brooklyn, in 1871, subsequently going to New Jersey, as engineer for the great estate of Wm. Walter Phelps in 1872. He left New Jersey in 1874 and went to Maine. Located at Lake City, Colorado, then the metropolis of the San Juan Country, in July 1875, with his brother, Mr. J. J. Abbott, establishing the firm of Abbott Brothers. Had charge of many properties and a wide practice as consulting mining engineer. During 1885 he was at Ouray, Colorado, where he remained for the following ten years. He was there appointed Clerk of the District Court, but retained practice as a consulting mining engineer.

In June, 1895, Mr. Abbott became manager of the Ybarra Gold Mining Co., a large enterprise in Lower California. Old Mexico, resigning from that position in the fall of

1896. Subsequently he spent some time at Yreka, California, Boston, Mass., and Grant's Pass, Oregon, returning to Lake City in 1899, and remaining there about twenty months. He then moved to Denver to take charge of highway improvement for the United States Government west of the Missouri River; a position which allowed him a great deal of freedom and opportunity to study and report on mines throughout the United States. He retained that position five years and went freely through the United States and into British Columbia and Mexico. The department was abolished in 1905 and Mr. Abbott refused employment in the new department created.

Mr. Abbott subsequently went to New Mexico and then to Goldfield. From Goldfield he came to Los Angeles to locate as consulting engineer, forming a close alliance with Mr. Wm. A. Akers, one of the most noted and competent mining engineers in the United States, who was soon afterwards killed in an automobile accident in this city. Mr. Abbott first visited Pioche in December, 1906, and at once recognized it as the camp for which he had sought so many years. Since then he has made the old Nevada camp his headquarters and has done more than any other man in bringing it to the attention of the mining world. He is a member of the Commercial Club of Salt Lake City and the Sierra Madre Club of Los Angeles.

## KENNETH K. ASH



**A** NATIVE of the Buckeye State, having been born at Cleveland, Ohio, Mr. K. K. Ash started upon his mining career at the age of 18 years in British Columbia, where he spent five years prospecting and developing. In 1902 Mr. Ash went to Nome, Alaska, where for two years he took an active part in Alaskan mining. Leaving Alaska he went to Salida, Colorado, and in 1906 came to Southern California, associating himself with the Death Valley Corporation with which he remained a year and a half. He has been identified with various Southern California corporations, but most of his operations have been for himself—operating practically as an individual. While one of the youngest of the Southwestern mining men, Mr. Ash is one of the most progressive. He is a member of the Sierra Madre Club of Los Angeles.

## PARKER BARRETT



**M**R. PARKER BARRETT was born at Grinnell, Jasper county, Iowa, in 1861. He removed to eastern Ohio with his parents when a lad and after living there till he reached the age of 18, struck out for himself and landed in Kansas. From there he went to northern Nevada and spent several years mining and stock-raising in the vicinity of Winnemucca and at other points as far north as the Oregon line. In 1882 he returned

to Kansas and spent two years, but in 1884 came to Kern county, California, where he secured a position as bridge

tions and the mine rescue stations in Great Britain, France, Belgium, and Germany, studying their equipment and methods. He is in regular personal correspondence with leading officials and engineers associated with mine safety work in each of these countries. He inaugurated the movement for free entry into the United States of mine safety and rescue appliances, and also the recent movement for mine rescue work in this country by private mine operators, by states and by the Federal Government.

He planned the establishment of the three state mine rescue stations in Illinois, and the twelve government mine rescue experiment stations to be located at points accessible to the principal coal fields of the country.

In 1907, on Mr. Holmes' recommendation, President Roosevelt secured the appointment by the government of Great Britain, Germany and Belgium of one distinguished engineer from each of these countries to visit the United States; and, in company with these engineers Mr. Holmes visited the more important coal fields of this country to determine the extent to which the modern safety practices of other mining countries might be introduced in the United States.

He has organized and directed the government investigations of mine explosions, of explosives used in mining, and the use of electricity in mining. He has taken personal part in the examination of many of the mine disasters occurring in the United States during the past few years.

In connection with his work during the past three years, Mr. Holmes, as chief of the Technologic Branch of the Survey has overcome the suspicions and won the confidence and co-operation of both miners and mine owners throughout the country. Notwithstanding the fact that the work has only just begun, results of the investigations and educational work are beginning to show a material decrease in loss of life.

#### THEODORE A. JOHNSON

**M**R. THEODORE A. JOHNSON was born at Geneseo, Ill., in 1864 and there received his education at the common schools. He started his business career at the early age of thirteen in a minor capacity with Mr. Taylor Williams, at Cleveland, Ill. Later he was selected as manager of a store which was opened at St. Davids, Fulton county, Ill., to supply the needs of between five and six hundred miners in Mr. Williams' employ. In 1885, he left for Kendall, Hamilton county, Kansas, to accept a position as bookkeeper in the Exchange Bank. During the first year of his residence in Kendall he was elected City Clerk and also served as deputy collector. In the following year he removed to Johnson City, Stanton county, Kansas, to open and take charge of the Johnson City State Bank. Mr. Johnson later went to Kansas City, where he became assistant cashier of the United States Bank after taking an active part in its organization.

In 1896 he entered the mining business as secretary and treasurer of the Missouri Smelting Co., with which he remained until 1900, when the plant was absorbed by the Guggenheims. He then aided in the organization of the Federal Lead Co., and realized a handsome profit



from lead properties in which he held substantial interests at Flat River, Mo. At the same time he held a directorship in the Union Lead Co. After selling his interest in those two companies, Mr. Johnson took an extended trip through Idaho, Montana, California, Nevada and Mexico and eventually decided to locate permanently in Los Angeles in 1901. Soon afterwards he became interested in the old Keystone mine, at Sandy, Nev., in partnership with Mr. Carl F. Schader of this city. The property paid its purchase price and distributed \$50,000 in dividends within two years after it was acquired. In 1904 Mr. Johnson became interested with Mr. Schader in the Johnnie mine, at Johnnie, Nev., and acted as manager for two years. Two or three years ago he disposed of his interest to a new company organized by a Mr. Doubleday. Upon the failure of the latter's plans, he stepped into the breach to save the investment of stockholders and was largely instrumental in perfecting the re-organization which succeeded the Doubleday regime. Mr. Johnson is also a director and secretary of the Pan-American Co., which is now building a railroad from San Geronimo, on the Isthmus of Tehuantepec, to Tunala, on the border of Guatemala, a distance of 385 miles. He is a charter member and director of the Sierra Madre Club and a director of the Juago Gun Club.

#### C. COLCOCK JONES

**M**R. C. COLCOCK JONES was graduated in Mechanical Courses from the Louisiana State University, at Baton Rouge in 1884 after serving several years as an assistant in the laboratory of his father, the late Dr. Joseph Jones, Professor of Chemistry, in the medical department of Tulane University of Louisiana, at New Orleans. In 1887 he graduated in Mining & Metallurgy from Lehigh University, Bethlehem, Pa., and spent the next two years with the Pennsylvania Steel Company, at Steelton, first in minor positions and later as foreman and assistant superintendent of the blast furnace department. Mr. Jones filled many positions of importance in iron and coal operations in Virginia and West Virginia, until early in 1896, when he was called to New Orleans by the death of his father. He subsequently spent a year examining mining property in Honduras and, upon his return, became interested in gold mines in White county, Georgia. Later Mr. Jones accepted the position of consulting engineer and manager to Mr. E. N. Breitung, of Marquette, Mich. This work gave him opportunity to examine mines in Wyoming, Canada and Michigan while he was also in partial supervision of several properties on the Menominee and Marquette ranges. He opened the hematite mines of the Breitung Iron Company at Wilde, Ontario, which were rendered accessible by the completion of the Algoma Central & Hudson railroad, and defined the large soft hematite deposits of the Mary Charlotte Mining Company, at Negaunee, Mich. In 1902 Mr. Jones accepted the position of mining and examining engineer for the Mountain Copper Company, at Keswick, Shasta county, Cal., and rehabilitated the Iron Mountain mine. In 1903 Mr. Jones went to Salt Lake City to examine phosphate deposits in the Wasatch mountains and next year re-



He was also appointed Trustee and Treasurer of the State School for the Deaf of North Dakota by Republican Governor Searles and served in that capacity with credit to himself and to the State for two years. In recognition of his unselfish devotion in that position he was re-appointed for a further term of four years by Governor John D. Burke, a Democrat. He was, however, compelled to lay down these honors in February, 1907, when he removed to the Pacific Coast. After looking over the local field he concluded to remain here permanently and formed a partnership to handle city real estate. He remained in that line until January 1, 1909, but about a year ago became acquainted with Mr. Julius Fried, and through him was initiated into the oil game. He holds valuable ground in many portions of the Midway fields and secured an interest in the Lakeview in May, 1909. Mr. Hodgkinson was married at Montreal, Canada, in July, 1901, to Miss Ethel Maud Stephen, niece of Lord Mount Stephen, of London, president of the Bank of Montreal, and who was elevated to the peerage in recognition of distinguished services rendered to the Empire in the financing of the Canadian Pacific Railroad. He has one child, a little girl—Beatrice Maud. Mr. Hodgkinson is an Elk, Shriner and Mason, and a member of the Sierra Madre Club.

#### EDWIN HIGGINS



MR. EDWIN HIGGINS was born in Jacksonville, Florida, on April 14, 1877, and received his early education in the public schools of that city. At the age of fourteen years he laid aside his school books to take a position in the Jacksonville post office, where for a year his duties required his time from five o'clock in the morning until seven at night. He then went to Washington, D. C., where he filled various clerical positions until his eighteenth year, when he entered preparatory school. Two years later he entered the Lehigh University, at Bethlehem, Penn., graduating in 1902 in the course of mining engineering and metallurgy. During his college vacations Mr. Higgins held various Government positions, his last appointment being in the Secret Service Division. Up to this time he had served in the District of Columbia National Guards and, during one year that he remained out of college, in the Jacksonville Light Infantry.

On leaving college Mr. Higgins accepted a position with the Bertha Mineral Company (a subsidiary of the New Jersey Zinc Company), operating mines, mills and a smelter at Pulaski, Virginia, and vicinity. Here he filled the positions of engineer and chemist. Leaving Virginia in 1904 he examined mining properties in various localities, receiving the appointment of mine manager of a Butte, Montana, property in 1905. He also maintained an office as consulting engineer in Butte and in 1906 organized an exploration company; in the service of this company and through his personal clientele he covered practically all of the mining districts in the Northwest.

When the depression of 1907 was at its height Mr. Higgins accepted a position on the editorial staff of the Engineering & Mining Journal, New York; shortly afterward he was appointed chief assistant to the editor. In October, 1909, again feeling the urgent call of the West,

Mr. Higgins resigned his position with the Journal and came to Los Angeles, where he opened an office as consulting mining engineer.

Although but 34 years of age, Mr. Higgins has been to nearly every mining district of importance in the United States, and a number of those in Canada. He is a member of the American Institute of Mining Engineers, and of the Sierra Madre Club of Los Angeles. Mr. Higgins has contributed many articles to the technical press of the country and still maintains a connection with leading mining publications. His office is at 631 Central Building.

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#### JOSEPH A. HOLMES



MR. JOSEPH A. HOLMES, first Director of the Bureau of Mines, appointed by President Taft a month ago graduated at Cornell University in 1880. During and since his college course he has devoted special attention to studies in chemistry (with laboratory courses in the chemistry of explosives and of metallurgy, etc.), geology, electricity and general physics, surveying, mining and metallurgy. He has visited mining

regions and examined—iron, copper, and other metal mines, coal mines, quarries, etc., and plants connected with the treatment and preparation of mineral products—in many parts of the United States, in Germany, France, Belgium and Great Britain.

He has studied in these foreign countries, as well as in the United States, the methods of mining, with special reference to lessening the loss of life and waste of resources. During his ten years (1881 to 1891) as Professor of Geology in the University of North Carolina, he examined many mines in a professional way; and as State Geologist (1891 to 1903) he gave much attention to an investigation of quarrying, metal mining and metallurgical operations.

In 1903 and 1904 he organized and had charge of the Department of Mines and Metallurgy of the World's Fair at St. Louis, planning the exhibits to show mining and metallurgical operations.

In 1904, when the government fuel investigations were authorized by Congress, Mr. Holmes, having planned the work, was offered its supervision, but being unable then to give it the necessary time, at his request, the supervision was placed under a committee consisting of Messrs. Parker and Campbell of the Geological Survey, and Mr. Holmes. Under this committee the investigations were carried on to the end of 1904.

Early in 1905 Mr. Holmes was appointed by the Director of the Geological Survey to take individual charge of the Fuel Investigations as enlarged and continued, and of investigations of mine explosions, etc. These, developed during 1905 to 1910 under the Geological Survey, are, after July 1, transferred to and constitute the main work of the newly created Bureau of Mines.

Mr. Holmes is a member of the American Institute of Mining Engineers, and other mining societies, and the Mining Investigation Commission of the State of Illinois, and he represents the United States on an International Mining Commission.

He has visited and examined the mine experiment sta-

Metallurgical Society, New England Historic Genealogical Society, Military Order of Foreign Wars, University Club, New York City, and the Sierra Madre Club of Los Angeles.

## FRANK MONAGHAN



FEW MEN are better or more favorably known in Arizona or in Southern California than Mr. Frank Monaghan, who first came to California in 1871 and has since been foremost in the pioneer business world of the State and Arizona. He originally settled in Orange county, where he still maintains his permanent residence and where he is one of the largest bean and orange growers in the district. In the early days of Needles, California, Mr. Monaghan opened its first mercantile establishment in partnership with Mr. Daniel Murphy, under the firm name of Monaghan & Murphy. A large and steadily increasing business was done with the Indians and early settlers and as a natural consequence the members of the firm became largely interested in the members of the firm became largely interested in mining property in the vicinity and, in fact, throughout the Territory. No men in the earlier history of the Southwest have become so deservedly popular among all classes and it is doubtful if any have done as much towards helping the development of the section in which they operated by aiding the prospector to secure necessary supplies and on lenient terms. For some time the firm supplied the town of Needles with water and ice and still maintains the merchandise business. For the past few years Mr. Monaghan has spent the major portion of his time at Santa Ana, Orange county, California, where he gives personal attention to his large land interests. He is a member of the Sierra Madre Club.

## E. A. MONTGOMERY



MR. ERNEST ALEXANDER MONTGOMERY was born at Toronto, Canada, November 24, 1863, and acquired his education in the public schools of London, Canada, and later in the public schools of Stuart, Iowa. During his early childhood his parents moved from Canada to the United States, locating in Iowa, where, on a ranch, his boyhood days were spent. In the winter of 1884 he went to Idaho and took up mining as a business, meeting with different success. From Idaho he went to Washington, where he spent some time in prospecting and investigating. Finding that field unsatisfactory, he went in 1901 to Nevada. There he located in Nye county, where he spent the next four years. He did the first work on the Johnnie mine, which has become a famous property. Inyo county, California, was his next field of operation, where he operated the "World Beater" and the "O. H. Joyful" mine. In 1903 he returned to Nevada—to Tono-

pah—where he became identified with the Los Angeles, Daggett & Tonopah Railway Co. In 1904 he outfitted, and started in to prospect the district surrounding Rhyolite, and in September of that year he located the famous Shoshone mine. Sixteen months later he sold the controlling interest in the property to Charles M. Schwab, at the same time selling him the control of the adjoining property, the "Polaris," which he had acquired. The "Montgomery-Shoshone" has produced several million dollars. In 1905 Mr. Montgomery bought the "Skidoo" mines, which he immediately commenced working and improving, and on which has been spent over a half-million dollars on improvements.

A feature of his desert life which is particularly pleasing to him is the confidence and friendship of the Indians of the desert which he enjoyed, and which was won by his considerate and fair treatment of those with whom he came in contact. He feels that he has been well repaid for his friendly interest by numerous kindnesses received by him at their hands.

Mr. Montgomery is President of the Skidoo Mines Company, and a Director in the following: Montgomery Shoshone Mines Co., Sapphire Oil Co., and the First National Bank of Tonopah.

He is president of the Sierra Madre Club and a member of the Jonathan Club, Rocky Mountain Club (New York), Drug and Chemical Club (New York), and the Masonic Fraternity.

He first came to California in 1891, and located his permanent headquarters in Los Angeles in 1892.

## SEELEY W. MUDD



BORN August 16th, 1861, in Kirkwood, a suburb of St. Louis, Missouri, and educated in Kirkwood School and the St. Louis High School, Mr. Mudd was graduated from Washington University in 1883 as engineer of mines. Since that time he has been active in mining. A chronicle of his career is a history of the mining progress of the Southwest, and in the years that have elapsed since he left Washington University Mr. Mudd

has risen to a position of the highest eminence in the mining world. After leaving Washington University Mr. Mudd was assayer and superintendent of the copper department of the St. Louis Smelting & Refining Company. He went to Leadville, Colorado, in 1885, and in 1887 became manager of the Small Hopes Consolidated Mining Company and the Boreel Mining Company and has been with these companies in that capacity ever since. Both the Small Hopes Consolidated and the Boreel Mining Company have yielded large dividends. From May, 1899, to April, 1902, Mr. Mudd was manager of the Ibox Mining Company, or the Little Johnnie Mine, Leadville, Colorado, known to Leadville history. In May, 1902, he was made consulting engineer in the West for the New Jersey Zinc Company, the greatest of America's zinc producers, with which company he was connected until June, 1904. In 1903 Mr. Mudd removed from Denver to Los Angeles, California, where he has since resided. From March, 1904, to December, 1905, he was the consulting engineer on the Pacific Coast for the Guggenheim Exploration



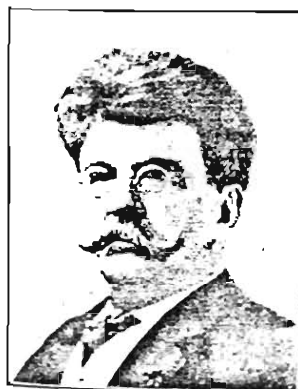
establishing headquarters at Spokane. From there he covered the British Columbia fields and the important camps of Montana, Idaho, Oregon, Washington and British Columbia. In 1892 he was placed in charge of the mineral exhibit at the World's Fair in Chicago. During 1894-5 and 6 Mr. Siver spent a portion of his time in Mexico, but returned to Spokane in 1897 and for some time thereafter continued in general professional work.

Since settling in Los Angeles in 1903 his professional duties have taken him, at one time or another, through California, Nevada, Colorado, New Mexico, Arizona and in the Far North along the Yukon of Yukon Territory and Alaska, north of the Arctic Circle, on the Porcupine, along the Tanana, Minook and Klondike and in the Atlin district of northern British Columbia. Mr. Siver is the author of several well-known works of wide scope, among them "Silver Coin and Its Relation to Gold," published in 1894.

## LYMAN STEWART

**M**R. LYMAN STEWART is one of the pioneer oil men of California and has seen the Union Oil Company grow from a \$5,000,000 company to a corporation capitalized at \$50,000,000 and backed by unlimited means. A corporation that is one of the most important factors in California oils today. Mr. Stewart came to California in April, 1883. He was joined a month later by Mr. W. L. Hardison and under the firm name of Hardison & Stewart started drilling at Pico and in Santa Paula Canyon. Later Hardison & Stewart incorporated as the Hardison & Stewart Oil Company, capitalized at \$1,000,000. The Sespe and Torrey Canyon Oil companies were organized late in the '80s. In 1890 the companies consolidated into the Union Oil Company of California, capital \$5,000,000. Senator Bard was the first president of the Union Company, but to Mr. Stewart is due the credit for its evolution from a comparatively small corporation to the giant business machine it is today. Mr. Stewart has seen every side of the oil industry and has risen steadily to a position of pre-eminence in the oil business.

## F. M. SMITH



**M**R. F. M. SMITH is one of the best-known figures in Southwestern mining. It was he who built the railroad skirting the edge of Death Valley and cutting thirty days from the time required to make the trip in the days when the famous "twenty-mule" teams transported borax from the mines across the desert to the railroads. As terse and laconic as was the famous order of the Czar of Russia when he drew a line between St. Petersburg and Moscow and said to his engineer, "Build a railway," were the instructions of "Borax" Smith to John Ryan, his construction chief, when he pointed across the desert from Ludlow and said, "Build a railroad up through the desert and draw on me for all necessary funds." "Borax" Smith knew what he wanted and he took the shortest path to attain the end. As a result of that laconic order the Tonopah & Tidewater Railway today affords the miners of Goldfield, Tonopah, Bullfrog and other districts in Nevada an outlet for

their ores and transportation for their material and supplies. In this pioneering, "Borax" Smith belongs to the class typified by J. J. Hill and other great railway builders.

Mr. Smith, in addition to his borax and railroad holdings, is the heaviest stockholder in the West End mine at Tonopah, and owns the controlling interest in the Oakland Traction Company and the Key Route Ferry System. The Oakland system was built twelve years ago and ranks with the foremost traction systems of this State. He is an honorary first vice president of the Sierra Madre Club.

## TIMOTHY SPELLACY



**N**O MAN in the oil business in the State of California is more widely known or highly respected than Mr. Timothy Spellacy, who is now a candidate for Lieutenant Governor of California on the Democratic ticket. He was born at Conneautsville in the oil fields of Pennsylvania so long ago he is ashamed to give the date and gained a wide experience both in that country and in Ohio. He came to California about eleven years ago, residing at Bakersfield for the first six years and being actively engaged in the production of oil. Five years ago he removed to Los Angeles and has since been among the foremost and most successful operators in the Kern River, Midway and Coalinga fields. His first ventures included the Lockwood, and Creseus, while he is now the heaviest stockholder and an official in the Illinois Crude, Premier and Mascot companies, all accounting for a heavy production. Mr. Spellacy is vice-president of the Sierra Madre Club and a member of several other clubs and organizations.

## HARRY P. TAYLOR



**M**R. HARRY P. TAYLOR was born in Utah thirty-three years ago and comes of pioneer stock. He attended Cornell University and Oberlin College and graduated from the Colorado School of Mines with the degree of Engineer of Mines. One year was spent in Oregon and four in Idaho, northern Nevada and Montana. Mr. Taylor then listened to the call of Goldfield, whose fabulous wealth was being heralded to the world, and his services were soon sought in the development of some of the most important leases in the camp. He was employed as consulting engineer for the Florence Goldfield Mining Company when he secured the lease, for which he paid the company \$5,000. The block adjoined a lease which had developed an immensely rich shoot of ore, subsequently lost. Upon making a careful examination of the ground, Mr. Taylor became convinced that he could find the lost shoot, and he asked for the lease. In Salt Lake he called in two former schoolmates and the three organized the Engineer's Mining Company, and sold

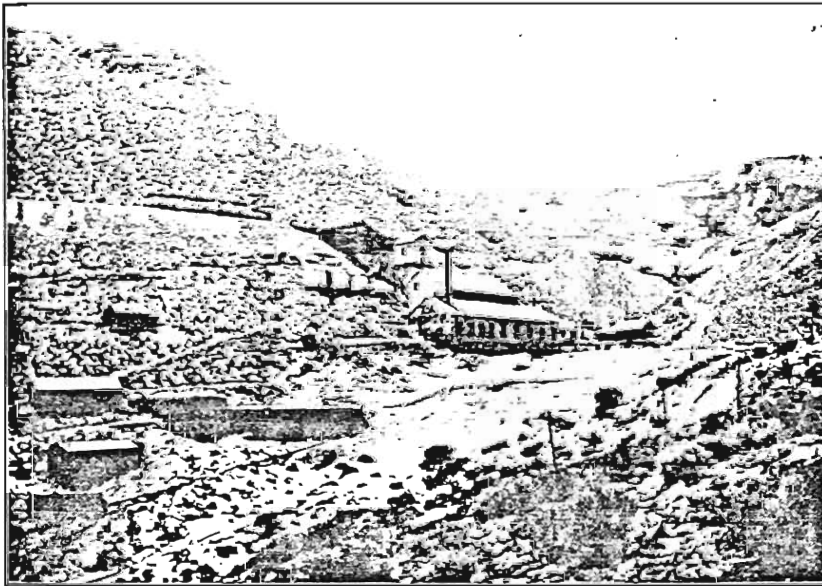


## YELLOW ASTER

Famous Mines of Southern California, Operated by Los Angeles Men, Have Produced Over Five and a Half Million Dollars.

THE YELLOW ASTER Mining & Milling Co. owns 42 patented mining and water claims in Kern and San Bernardino counties, Cal. The mine has paid from the beginning of operations. It has been worked continuously since its discovery, day and

ton. These enormous ore-bodies are all above the mill level of the mine and are being quarried or "glory-holed." The cost of extracting and milling this ore has been found through years of experience to be about \$2.00 a ton, leaving a net profit of \$1.00 a ton.



Yellow Aster Thirty-Stamp Mill.

night, with the exception of three months in 1903 when it was closed on account of labor troubles. In that time it has milled 1,428,500 tons of ore and has shipped to the United States mints over five and one-half million gold bullion.

The locators of the property were John Singleton, Chas. A. Burcham and Fred M. Mooers. The directors and officers to-day are John Singleton, President; Chas. A. Burcham, Vice-President; Dr. Rose L. Burcham, Secretary; Chas. H. Mooers, Second Vice-President, and Ward Chapman, Attorney. It is a close corporation. All the directors are residents of Los Angeles and hold a majority of the stock.

Of the \$5,500,000 bullion which has been shipped, over \$1,000,000 has been paid to the stockholders in dividends. \$750,000 has gone to develop ore bodies, the remainder expended for operating expenses.

The expenditure for development has uncovered and blocked out eight million tons of ore averaging \$3.00 a

Combining machine drills with the quarrying method and handling the ore by gravity makes the actual extraction cost about 75 cents a ton.

The cost of carrying the extracted ore to the mills averages 10 cents a ton, crushing and milling cost 50 cents a ton, water, 25 cents a ton of ore; power, 20 cents and incidental expenses bringing the total to a \$2.00 average.

Below the mill level of the mine are large ore-bodies only partially developed. There are, however, shafts, tunnels, and drifts throughout the mine totalling over fifteen miles in length. The lowest depth reached below the mill level is about 600 feet on the dip of the vein. The property of the company covers 4000 feet more of virgin mineralized ground on the lode. The ore-body is about 600 feet wide from wall to wall.

There has been installed a complete plant consisting of one 100-stamp plate amalgamation mill, one of thirty stamps, with engines and crushers, machine shops and all necessary appliances, three water-pumping stations pumping a million gallons of water daily and a network of twelve miles of railroad tracks with station engines and locomotives and three-ton ore cars carrying 500 tons of ore to the mills daily.

The water problem, always a great factor in desert mining operations, has been satisfactorily solved. At one station there are two wells, one 1700 feet deep, at another three wells, one 1500 feet in depth, which with shafts, drifts and impounding reservoirs, produce enough water to supply 1000 stamps.



Looking Towards Town from Yellow Aster "Glory-hole." The One-hundred Stamp Mill on the Right, the Thirty-Stamp on the Left.

## SEP 24 GREAT GOLD BELT

1910

Local Company Meets Strong Encouragement in Eastern San Bernardino County. Will Erect Reduction Plant.

THE GREAT Gold Belt Mining Company, whose properties are situated in Eastern San Bernardino County, California, and whose principal camp is near Amboy and Cadiz on the main line of the Santa Fe, is developing water for its mill, the construction of which is to be commenced soon. In sinking the shaft on the San Antonio claim, water-bearing strata were penetrated, and in drifting and cross-cutting from the 250-ft. level, a considerable flow has already been secured. The accompanying illustration shows the bucket at the San Antonio hoist, dumping water from the shaft.

One of the company's numerous ore bodies is also illustrated. This deposit is on its San Antonio claim, about 500 feet southwest of the shaft; it is 40 feet in length and 20 feet in height, averaging \$20 per ton in gold.

The mill will be of the roller pattern, and all equipment will be thoroughly modern and up-to-date. A water conserving system with minimum waste will be a part of the

plant. The company also contemplates the purchase in the near future of a core drill to thoroughly prospect its unexplored ground.

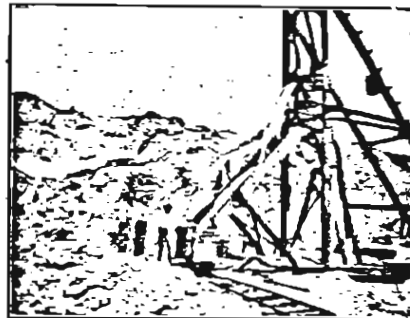
The holdings of the company consist of approximately 700 acres of



Great Gold Belt Vein.

mineral land, and at three points on its property, approximately a mile apart, ore for the mill is already opened. The company's offices are at No. 522-523 Grant Building, Los Angeles, California, and in charge of its affairs are L. I. Plummer, President, and S. H. Baker, Secretary.

Other officers are Mr. C. B. Barnes, Vice-President, also Vice-President of the California National Supply Company; Mr. Geo. A. Mattern, Treasurer,



Great Gold Belt Hoist.

teller of the German-American Savings Bank; Mr. C. G. Mann, Assistant Secretary, City Passenger and Ticket Agent of the Chicago and Northwestern Railway; Mr. L. J. Oller, Director-Manager Los Angeles branch Studebaker Brothers Company of California; Mr. James N. Harper, Director, a capitalist of Watertown, So. Dak., and Los Angeles.

The general management of the property is in charge of Mr. Alex McLaren, a well-known local mining engineer, who has had many years' experience in all parts of the West.

## DALY MINES COMPANY

Local Concern Owns And Operates Promising Property Adjoining the Mudersbach Mines, Eight Miles South of Bouse, Arizona

THE DALY Mines Company was organized under the laws of Arizona and has a capitalization of one million shares, par value one dollar, fully paid and non-assessable. The Vulcan group, consisting of 16 lode claims, was acquired by the corporation upon the report of Mr. Ernest A. Haggott, the well-known mining engineer.

The property lies about eight miles south of Bouse, Arizona, along the line of the Arizona & California railway, now in operation from Wickenburg to Los Angeles, giving about twelve hours' service between the two points. Those familiar with that section of Arizona have predicted that within five years it will be one large camp, second to none in the country,

account of its richness in minerals, carrying copper, gold and silver; this is also the opinion of eminent mining engineers who have visited the country.

The Vulcan group adjoins the Mudersbach property, recently purchased by Mr. Geo. Mitchell, president of the Clara Gold & Copper Mining Company, for the sum of \$250,000.00; at the present time Mr. Mitchell is mining and shipping copper and gold ore to his smelter at Swansea.

The following quotation regarding the property of the Daly Mines Company is taken from the last report of our engineer:

"In the Vulcan, No. 2, south shaft, on the claim of the same name, sinking has been completed to a depth of forty feet. On the surface at this point the outcrop of lime showing copper is quite large. The shaft is sunk near the east edge of the lime; this lime is well mineralized, carries a good deal of iron oxide and dips at an angle of fifty degrees to the east. Some good copper oxides and carbonates were found at twenty-five feet depth, but the portion of the formation carrying this ore dipped into the hanging side of the shaft at thirty feet depth. At forty feet the purer

limestone changes abruptly to leached formation, heavily charged with iron oxide, and showing slips caused by movement. This should be sunk to greater depth, as the prospective conditions for copper are good. I consider that it is highly desirable to sink at least 100 feet deeper at this point for the further development of ore."

The officials of the company feel that with the capital necessary for further development large bodies of ore carrying good values in copper and gold will be encountered in the deeper ore levels.

The officers of the Daly Mines Company are well known in Los Angeles: Mr. Carroll J. Daly, President; Mr. Henry F. Daly, Vice President; Mr. Jos. A. McBride, Secretary and Treasurer; Mr. John H. Clancy and E. C. Daly, Directors; Mr. Angus R. Lindley, Attorney. The United States National Bank of Los Angeles is depository for the corporation. Information regarding the property may be obtained at the company's office, 534 Byrne Building, Los Angeles.

**FOR SALE**—We are instructed to offer a well-equipped gold-silver mine in Sonora, Mexico. Available ore exceeds 200,000 tons of \$40 value, dump 6000 tons \$10. Good milling plant. Mine has produced many millions of dollars. Full particulars, photos, etc. Baverstock, Staples & Payne, assayers and chemists, 223 W. 1st St., Los Angeles.

SEP 24

1910

## LANE SLOW SPEED MILL

Chilian Mill; Invention of Los Angeles Man, That Occupies a High Position in The Mining Machinery Field.

**M**R. C. C. LANE, the inventor and patentee of the Lane mill, had been engaged in mining and milling operations for 21 years prior to 1889, when he had his first experience with fast speed roller mills. Some years later, having solved the problem of capacity with slow speed, he built several cheap mills with these features. The results in operation so far exceeded his expectations, that he then proceeded to improve the construction and remedy such faults as had developed in the early models. Other improvements have been made from time to time, and weak points strengthened, so that today the Lane slow speed mill fulfills all requirements as to efficiency, gives a maximum expenditure for power and repairs, and in construction is a credit to the makers.

Eminent mining men are now beginning to realize that the prejudice in favor of stamps is not justified by the results in operation and that in time the roller mills running at slow

speed will supersede them entirely.

Running at slow speed with the pulp in the pan under enormous wheel pressure, and giving both a crushing and a grinding motion, the Lane mill produces an ideal product for amalgamation. Any gold particles which are rusty or coated are polished by abrasion or the grinding action, which is conducive to perfect amalgamation. An impartial consideration and a careful investigation of the results obtained by the Lane mills in operation will prove that it is one of the most perfect amalgamators on the market today. The abrasive action is so marked that the capacity is materially reduced when fed finer than quarter-inch. This is the case also in tube mills, which require pebbles or hard quartz to reduce the sands by abrasion.

The Lane mill provides an economical, efficient method of reduction, and is designed to lower milling costs and at the same time give the highest extraction of values. It can be

erected for less than one-half the cost of stamps of equal capacity. It requires little power to operate, and the repairs (owing to the slow speed) are light, being not over 4 cents per ton of ore milled. This economy in power and repairs reduces milling cost, and the slow speed enables perfect recovery of values so that a double saving is made for the purchaser.

The Lane mill is the result of long years of experience. The inventor was first appointed as mine and mill superintendent Nov. 7th, 1867, by the Buel North Star M. & M. Co. at Austin, Lander Co., Nevada, and since that time has been in charge of various mines, mills and smelters in Nevada, Arizona, British Columbia, Mexico and California. The officers of the Lane Slow Speed Chilian Mill Company are practical mining men and as such advocate the simplest methods of treatment commensurate with good results. Not being general machinery dealers they do not recommend the installation of complicated processes where they can be avoided. Correspondence and inquiries regarding methods of treatment receive careful attention at the company's offices, 236 to 247 Douglas Building, Los Angeles.

## SEP 24 NEEDLES SMELTER

Purchase by the United States Smelting, Refining and Mining Company Marks an Important Epoch in the Mining Annals of the Southwest.

(By Dr. L. D. Godshall, Manager Needles Mining & Smelting Company.)

**T**HE RECENT purchase and enlargement of the Needles Smelter by the United States Smelting, Refining & Mining Co., marks a new era in mining for the entire Southwest.

Heretofore the development of this entire section has been practically impossible for the reason that no nearby market was available for the ore produced. Several small independent smelting concerns at various times endeavored to fill the long felt want of such a necessity, but failed by reason of lack of capital required, not alone for a large and economical smelting plant but to assist at the same time in the development of mines.

The section of country directly tributary to Needles includes a territory within a radius of 250 miles in all directions. The nearest market for gold, silver and lead ores heretofore has been El Paso, Texas; San Francisco, Cal.; or Salt Lake City, Utah.

The long distance from the mines to the above points necessitates a high freight rate, and as the ore is not any richer here than in other similar mining countries, it has not been up to the present an attractive proposition for capital to come into the country to open and develop the mines.

This condition is now entirely changed with the advent of the U. S. Smelting Refining & Mining Co., at Needles, and in the short time since the assurance was given of a home market for all ores produced, a great change has come in connection with the different districts; activity is everywhere noticeable. New capital is daily coming into the country and new mines are started and old ones re-opened.

The character of the work in the enlargement of the smelter at Needles will also be of interest to the public. In addition to the direct enlargement of the smelter, a 250-ton concentration mill has been built, and is almost ready to begin operations.

The object of this mill is to take care of the ores produced by the Company mines, as well as by the general public. Many mines throughout this section of the country do not have sufficient water to allow of concentration at the mine, yet are too low for direct smelting. To take care of such ore is one object of the new concentration mill. Another object is to treat mixed lead-zinc ores, by first concentrating same, then separating the zinc and marketing it, thereby deriving a revenue from the zinc instead of charging a penalty for smelting it in the lead furnace.

The name of the Company operating at Needles, is "The Needles Mining & Smelting Company." Those in immediate charge are: Dr. L. D. Godshall, Manager; Mr. D. R. Muir, Asst. Manager; Mr. H. E. Benedict, Smelter Superintendent; Mr. C. J. Witt, Mill Superintendent.

### Ventura Development Company

REAL ESTATE and INVESTMENTS

Ventura County Oil Land a Specialty

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## BIG DEAL CLOSED

Pacific Mines Corporation, Identified With John Hays Hammond Interests, Acquires Bagdad-Chase and Roosevelt Properties South of Ludlow, San Bernardino County, California. Extensive Operation Will be Commenced at Once. Deal Negotiated by Local Mining Engineer.

ONE of the most important mining deals that has taken place in the Southwest for several years was consummated a few days ago when the Pacific Mines Corporation, a new company formed in New York for the specific purpose, assumed control of the famous old Bagdad-Chase mines and the almost equally famous Roosevelt group, adjoining each other, seven miles south of Ludlow in San Bernardino county, California, and connected with the main line of the Santa Fe system at Ludlow by a broad-gauge railroad, seven miles in length, known as the Ludlow & Southern.

The details of the arrangement were worked out by Mr. Frank A. Keith, the well-known mining engineer of this city, who was formerly general manager of the Tonopah Mining Company and who is known to be the personal representative of the John Hays Hammond interests in this section. He it was who secured, in conjunction with Mr. John Hobbs, of Denver, a large interest in the Tom Reed mine in Mohave county, Arizona, for the Hammond interests.

While the price and some other details of the sale are not yet available, it may be said with certainty that a large part of the property has already been paid for and that the balance of the property will be taken over without encumbrance just as soon as arrangements can be perfected. The Roosevelt property has been acquired outright, while the Bagdad-Chase ground will be put into the new corporation on an equitable basis that leaves the large stockholders of that corporation interested in the new venture. The ground affected includes about twenty-five claims, the equipment at the mines and the railroad, but the Bagdad Chase mill at Barstow, about fifty miles to the west on the Santa Fe, has not been considered in the sale. It is probable, however, that the new concern will use it for experimental purposes, but even that has not yet been definitely decided. At the present time it is under lease to men who are working over the accumulated tailings piles.

capitalized for \$1,000,000 with Mr. John Hays Hammond president; Mr. J. N. Beckley of Rochester, N. Y., and president of the Bagdad-Chase Gold Mining Company, vice-president; Mr. Frank A. Keith, vice-president and general manager, and Mr. James W. Campbell, private secretary to Mr. Hammond, secretary and treasurer. The capital has been entirely subscribed and no part of it will be offered to the general public. It is also understood, though no confirmation can be obtained in an official direction, that Mr. Seeley W. Mudd, member of the executive committee of the Ray Consolidated and formerly chief of Mr. Hammond's engineering staff, when he acted as consulting engineer for the Guggenheim interests, is also heavily interested in the new company.

The Bagdad-Chase properties are among the most widely known in the Southwest and have produced in excess of \$2,500,000 from above the 200-foot level. The property was owned and worked for many years by the Bagdad-Chase Gold Mining Company, owned almost entirely in Rochester, N. Y., but of late years nothing in the way of operation has been attempted. Among the prominent stockholders are Senator Chauncey Depew, Mr. Chase, a leading banker of Rochester, and Mr. Beckley of Rochester, who becomes vice-president of the new concern.

Originally, the stockholders of the Bagdad-Chase were interested in the construction of the railroad from Barstow to Johannesburg, immediately following the excitement in that district fourteen years ago. In order to encourage the development of the district and provide an outlet for the product, they then built a stamp and chlorination plant at Barstow. Subsequently the railroad was sold to the Santa Fe and the mill was left on their hands. They then started to find a mine to supply the mill, the mines of Johannesburg having provided their own reduction facilities, and after a search covering many months took over the properties seven miles south of Ludlow. Although the point of sup-

from the mill, the latter was operated for some years at a profit and is still in fairly good condition, though the original equipment has been discarded and stamps, plates and cyanide plant added.

The Roosevelt mines are also well-known, having been operated for some years at reasonable profit by the Roosevelt Mining & Milling Company of Pasadena. For two or three years nothing has been done, however, the last development having been in charge of Mr. Lewis R. Porter, who is now general manager of the Sierra Pinta mines, on San Jorge's Bay, Lower California. The capital of the company is \$1,000,000 and it is understood that the entire capitalization has passed to the new owners.

Both properties have been opened up by an extensive system of shafts and drifts and it is certain that the old workings will aggregate several miles. The ore is silicious, carrying from \$7 to \$10 in gold and some values in copper. As a converter lining it is just now in great demand and it is the intention of the company to make initial shipments to the Humboldt, United Verde, and other smelters in the Territory of Arizona. Subsequently, experiments will be made to devise a system of economical reduction on the ground. The general management of the new company will be in the hands of Mr. Frank A. Keith, with headquarters in this city, while the mine will be superintended by Mr. A. T. Johnson, also of Los Angeles.

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## SKIDOO MINES.

Official Statement Shows Excellent Returns for Month of September.

WITH six days lost through various troubles, the Skidoo mines treated 1017 tons of ore during the month of September and made a net profit of \$14,055.72, the largest amount yet recovered since the mill went into commission. The total value of the bullion produced was \$22,131.17, showing an average value of \$21.86 per ton. In addition it is estimated that the concentrates for the month will be worth \$500, making a total of \$22,631.17 recovered. During the month \$887.78 was spent in development and \$7,687.67 in operation. The property is situated in Inyo county, California, on the summit of the Panamint Range and is owned almost entirely by Mr. E. A. Montgomery, of Los Angeles.

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**SOUTHERN CALIFORNIA.**  
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Important Discovery in the Butte Lode. The Arondo Mines. Examining the Crawford.

(Special Correspondence.)

**JOHANNESBURG, Nov. 5.**—The Butte Lode Mining Co. has exposed a vein of ore about two hundred feet east of the main shaft of that property. A recent cloudburst was responsible for the discovery which in the opinion of Supt. Pat Fayhe may prove as great a producer as the Butte Lode vein from which about \$500,000 was taken. Free gold is visible in the ore. At a depth of ten feet the vein pinched to a seam. This seam was followed and at a depth of forty feet has opened into twelve inches of ore worth one hundred dollars per ton. The new vein has been traced easterly for nearly twelve hundred feet in adjoining property, and four sets of leases are sinking at various points along the discovery. The Butte Lode mine has been a producer for nearly fifteen years being operated largely under the leasing system. While the mine has yielded a half a million dollars, at no time in its history has there been over five thousand dollars in sight. This is not due to any lack of systematic development, for the underground workings are several thousand

and feet in extent, but is accounted for by the irregular character of the ore body. This condition also exists in most of the mines of the Stringer district.

Wynn and Teagle have cleaned up a five hundred ton run in the Baltic Cyanide plant at the Baltic mine, in the Stringer district. The recovery is said to have been about three dollars per ton. The material treated was taken from the old dumps, screened and cyanided without crushing. The result is considered satisfactory, and a small crushing plant will now prepare ore from the mine for treatment.

It is reported that three hundred dollar ore has been encountered at the Merced mine. The vein is but a few inches wide and owing to the extreme hardness of the wall rock the ore cannot be profitably mined by hand work.

The Kern Piute Consolidated Mining Co. operating in the Piute district, has completed extensive alterations and additions in its reduction plant. This includes the installation of two new boilers and a concentrating plant.

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INYO COUNTY.

The Harris-Reeves Co. of Los Angeles has spent several months in examining the property of the Arondo Mining Co. and in making trial runs at its plant situated in the Argus

Mountains. It is expected that the property will be taken over by the Harris-Reeves Co. on the first of November. The mine is equipped with a Cornish Roller mill and a cyanide plant and has a good record as a producer. The freezing of the pipe line last winter checked the production, and the finances of the Arondo Co. became involved. The sale of the property to the Harris-Reeves Co. is the result.

E. T. Godbe, mining engineer of Los Angeles, accompanied by F. E. Crawford and W. C. Price, is examining the Crawford mine at Harrisburg in the Panamints, Mr. Price being the prospective purchaser. The Crawford mine is not far from Skidoo and is looked upon with favor by those who are acquainted with the property.

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SAN BERNARDINO COUNTY.

Dr. Samuel Slocum will resume operations next month on his copper property near Copper City. The mine is equipped with a hoisting plant and has been developed by several hundred feet of work. A new shaft will be sunk this fall.

In the newly discovered camp of Wake-Up-Johnnie, 24 miles from Barstow, shafts are being sunk in an effort to find water. Other development work has been suspended awaiting the outcome of this work.

Word has been received that the Tecopa mine is to commence work again in the near future. It is said that no attempt will be made to ship the daily tonnage contracted for with smelter concerns, and that for the present, work will be confined to the development of the ore body.

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MONTGOMERY-SHOSHONE.

Famous Gold Mine of Rhyolite Has Been Closed Down Indefinitely.

**THE** Montgomery-Shoshone mine at Rhyolite, Nev., sold some five years ago to interests represented by Charles M. Schwab, then head of the United States Steel Trust, for a price which made a millionaire of Mr. E. A. Montgomery, president of the Sierra Madre Club and one of the most widely known mining men of the West, has been closed down during the week and it is very doubtful that it will ever be reopened by the present owners. Dr. M. R. Ward, brother-in-law of Mr. Schwab, passed through Los Angeles early in the week and arrived in Rhyolite on the Tonopah & Tidewater railroad early on Tuesday morning. He was met by General Manager John G. Kirchen, and after visiting the mill and mine gave the orders which concludes a chapter in the history of one of the

most celebrated mines in the more recent history of Nevada.

According to Dr. Ward, the mine showed actual loss during the summer months and made but a few paltry hundred dollars in August. At the recent stockholders meeting Mr. Kirchen presented the actual facts and expressed the opinion that the ore now in sight was of too low grade to be mined and milled with profit. It was hoped, however, that diamond-drill operations would show up better ore and Mr. Schwab agreed to turn over an additional fund of \$50,000 in order that this work might be prosecuted. After spending \$17,000 of the available sum, Mr. Kirchen notified the management that it would be useless to spend the balance and again urged the abandonment of the mine. As a result Dr. Ward was dispatched West to represent the company and after confirming the opinion of Mr. Kirchen the necessary orders were given.

While the blow is a heavy one to

Rhyolite and the entire southern portion of the State, it had been thoroughly discounted during the past few months. It was known that things were not looking particularly bright and the last annual statement showed that the company was still indebted to Mr. Schwab in the sum of considerably over \$200,000. The Montgomery-Shoshone was the last hope of the Schwab interests in the mining fields of the State of Nevada. Some years ago many hundreds of thousands of dollars were lost at Greenwater, just across the line in California, and at the time the boom burst Mr. Schwab made some caustic remarks concerning associates who had recommended the purchase of property in that district. Soon after, a clean sweep was made of those who had previously advised him and Mr. Kirchen was placed in charge of the Montgomery-Shoshone. He instituted many needed improvements in the mill and is generally believed to have accomplished more than was at one time thought possible in the way of extraction. The ore-bodies did not develop up to expectations, however, and so nothing was left but to close down for good.

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INYO MINES ACTIVE (21)

Railroad Line Has Injected New Life  
Into Old District.

ACCORDING to Mr. A. B. Bell, general manager of the Mortimer Mining Company, operating property twelve miles from Lone Pine, Inyo county, California, there has been a noticeable increase in activity since the new branch of the Southern Pacific was completed. Supplies are now brought in at greatly reduced prices and without delay, while machinery replacements, which formerly consumed much time, are now possible without serious delay.

At the old Minnietta mine in the Argus Range, Jack Gunn of Independence has opened up another of the high-grade silver-lead ore bodies for which the property has been famous for many years and is again sending out regular shipments. The old Custer at Darwin is also shipping and a very important strike has just been made seven miles north-east of Darwin. According to reports, the ore-body is eight feet wide and shows the same width at a depth of twenty-five feet with values of 70 per cent. in lead and from 40 to 60 ounces silver. The property is owned by a Mr. Schively.

In the vicinity of Keeler, the Four Metals Mining Company has leased the famous old Cerro Gordo mine to a Mr. A. R. Short of San Jose, and he is now working a force of fifteen men. It is expected that regular shipments will be commenced within thirty days, as a very fine ore-body has been exposed on the eleventh level. At the Ironside mine, Mrs. Wells is still shipping high-grade by express and the lower grade ore by freight, while her neighbor, a Mr. Young, has just discovered a similar body of ore and is also sending some of the high-grade forwarded to Selby by express. It is said that this ore runs in the neighborhood of \$500 a ton.

Work has been commenced at the Keynote, twelve miles east of Lone Pine, and it is said that a wagon road will be built and the property opened up at greater depth. In the Beveridge district, Mr. R. C. Spear has opened up an excellent body of gold ore and is working it in a steam arrastre. The Mortimer Mining Company is working a force of fifteen men and will install a twenty-stamp mill, with amalgamating and concentrating plant, early in the spring. At the Reward mine, recently acquired by Mr. A. J. McCone and associates, the mill and flume are being thoroughly repaired preparatory to early and extensive operations.

The Chrysopolis property, northeast of Independence, has been bonded to eastern people, who are now installing a ten-stamp mill. Work has been suspended at the Buckeye near Big Pine until the plant can be thoroughly overhauled and the process modified to more closely save values.

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## PYRAMID OIL.

On the 1600 acre tract of the Pyramid Oil Company on the Midway-Maricopa flat, the company has completed the installation of a rotary drill, after going 850 feet with a standard rig. About 400 feet of alternating strata of very hard shell and softer shale has been passed through. Each stratum of shale has carried a considerable flow of gas, indicating that the oil bearing formation occurs at a much shallower depth than at first predicted by geologists who examined the property. The indications now are that this will be found to be from 2000 to 2500-foot territory. The well now drilling on this tract is on section 18-32-25. The company is making preparations to start the drilling of two more wells at once, one to be on section 20 and the other on section 30. The Pyramid's No. 1 well on its Prosperity property in Kern River has been perforated and as soon as the sand can be cleaned out it will be put on the pump.

## CALIFORNIA MIDWAY.

The California Midway Oil Co. makes the following report for the week ending December 23rd: "On well No. 2 we are now changing the agitation rods and extending them to the bottom of the hole. Formerly

they were placed at sixty feet from the bottom. From close observation of this well it seems that the gas strata lies above the oil sand and we have had our agitation rods above the oil which would necessitate the oil rising sixty feet from the bottom before the agitation rods would take effect. At times this well produces at an enormous rate, say probably a period of three hours apart, and we believe that by the changing of the agitation rods it will be made to flow permanently. This will require about six or eight days time. Our well No. 1 broke loose at four o'clock on the afternoon of the twenty-first and began to flow through the two-inch circulating tubing that was left in the well, (this well was formerly flowing between the three and four and one-half inch casing) and up to six o'clock on the afternoon of the twenty-second it had produced 1300 barrels of oil according to the gauge. Thinking that it might be interesting to the stockholders, will state for your information, that the Olig Oil Company's well, which is about 300 yards south of our well No. 1 on section 32, began producing steadily Monday the nineteenth at four o'clock, and is making approximately 1000 barrels per day; also the Bulck Oil Company's well which is about 500 yards west of our No. 3 well, struck gas at 2550 feet. Well No. 3 is now down 2335 feet with 8½-inch casing. Well No. 4 is still 2200 feet with 10-inch casing, the delay being due to the fact that we have been endeavoring to keep the casing free so as to be able to carry this size casing several hun-

dred feet further. The derrick for well No. 5 has been completed. Our superintendent states that barring accidents our wells Nos. 3 and 4 will be finished by March 1, 1911."

## KRAMER NOTES.

The North American Petroleum Co. has a gang of men preparing camp for drilling operations, nine miles northwest of Hawes, eighteen miles west of Barstow. The company has sent in a fine combination rig—rotary and cable drill. Drilling will begin by February 1st. Thomas Allan Box of Los Angeles is the active head of the company and F. J. Pardee secretary. Eastern capitalists are interested in the company.

The Kramer Oil has fished out the tools and cement will be used to cut off the flow of water. The hole is down to four-inch casing, 2900 feet deep. It is in the oil sand, but may go 100 feet deeper to increase the oil flow. Over \$100,000 have been spent on this well.

The Mohave River Oil Company will soon begin drilling at Fields, thirty miles east of Daggett. It has acquired 40,000 acres of land. Mr. Alfred Anderson of New York is the man behind the enterprise. Mr. Andre says the oil belt extends from Bakersfield east of Daggett, north of Kramer, Hawes, Hinkley and Barstow.

Mr. Ellis Mallery, whose oil drilling rig may be seen east of Barstow, writes us that drilling will begin soon after the holidays. It will probably be put to work south of Nebo.—Barstow Printer.

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## p 20. SKIDOO MINES. 12-31

The official report of operations at the Skidoo Mines during the month of November shows a gratifying improvement over the previous month. Five and a half days time was lost through various milling troubles, 1317 tons being treated with a gross bulion value of \$21,335.89, or an average of about \$16.20 per ton. Operating expenses reached \$7585.66 and development absorbed \$470.20. The net profit for the month was \$13,280.03, comparing with something over \$5000 for October.